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ASTOUNDING
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R. JONES

READ HOW LARRY'S PIMPLY FACE ALMOST MADE HIM QUIT THE SHOW

SAY – WHAT'S BITING YOU? YOU'RE NOT SERIOUS ABOUT NOT BEING IN THE SHOW, ARE YOU?
I CERTAINLY AM – WHAT D'YOU FELLOWS TAKE ME FOR? THINK I WANT TO GET UP AND PLAY IN FRONT OF A BUNCH OF PEOPLE WITH THIS PIMPLY FACE? NOT MUCH!

NEXT DAY
TAKE IT FROM ME LARRY – THESE YEAST CAKES ARE SLICK STUFF TO FINISH OFF PIMPLES – JUST YOU START EATING 'EM RIGHT OFF!
GEE CHARLIE – YOU SURE ARE ONE SWELL GUY!

LATER
HEY CHARLIE – TAKE A SQUINT AT MY FACE – THAT FLEISCHMANN'S YEAST WORKED
WELL I TOLD YOU IT WOULD CHASE THOSE BLOSSOMS – DIDN'T I?

DON'T LET ADOLESCENT PIMPLES KEEP YOU FROM BEING A HIT

MANY young people suffer from ugly pimples after the start of adolescence—from about 13 to 25, or even longer.

At this time important glands develop. This causes disturbances throughout the system. The skin, in particular, gets oversensitive. Waste poisons in the blood irritate this sensitive skin—pimples appear.

Fleischmann's fresh Yeast helps to clear these skin irritants out of the blood. Then, the pimples go.

Just eat 3 cakes *daily*—one about ½ hour before each meal—plain, or in a little water. Do this until your skin is entirely clear again. Start now!

—clears the skin
by clearing skin irritants out of the blood

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TOUGH ON OIL COMPANIES *But* A BOON TO MOTORISTS

Amazing new mineral plating saves up to 50% on oil*...increases gas mileage up to 45%*...adds new pep, speed and quiet...all at a fraction of new ring and rebore cost. Coupon below brings you sample free!

A miner's chance discovery plus scientific research are responsible for Ovrhaul—"The modern way to recondition your motor." The action of this amazing mineral (motor heat expands it up to 30 times) is astonishing. This patented mineral plating process threatens to revolutionize the cost of motor upkeep. Already nearly a quarter of a million car owners are using Ovrhaul in place of new ring and rebore jobs.

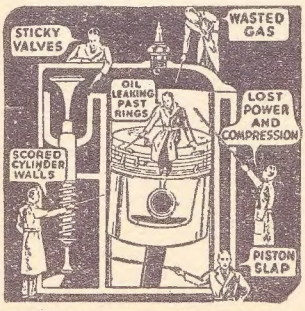
OVRHAUL YOUR MOTOR IN 30 MINUTES

At a cost less than spark plugs and in only 30 minutes' time, you can place OVRHAUL in your cylinders and start reaping the benefits of this amazing invention. No special tools needed—no car tie-up—no danger of ruining your motor by grinding the cylinder walls.

*Some users report even greater savings, however let us send you Impartial Certified Laboratory tests which prove conclusively what Ovrhaul is doing.

Solves a 25 Year Old Problem

Since motor cars were first invented—OIL WASTE, LOW GAS MILEAGE, LOW COMPRESSION, LOST POWER and NOISY MOTORS, caused by worn rings and cylinders, have brought great expense to car owners. Before Ovrhaul, it was necessary to put in new rings and rebore the cylinders, costing up to $150.00. Now—a single application of Ovrhaul quickly checks oil waste—increases gas mileage and compression and adds new power, pep, speed and quiet, all at a fraction of the cost of new rings and reboring.



MONEY MAKING TERRITORIES OPEN

FOR SALESMEN AND DISTRIBUTORS WHO ACT QUICK!

Salesmen and Distributors are cashing in Big with Ovrhaul. It is so revolutionary—so positive in its action—so new and different and saves the motorist so much money—that representatives say OVRHAUL is the quickest seller and biggest profit-maker they have had in years. Not a gasoline dope, nor gadget. Does not contain graphite or harmful abrasives. 18 million car owners need Ovrhaul. If you want in on this, send the coupon opposite or a penny post card and

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"We hereby certify that we have tested OVRHAUL UNDER WORKING CONDITIONS with these results: Test made on 1928 Pontiac driven 73,000 miles. TOTAL GAIN in compression 92 pounds (nearly normal according to manufacturer's specifications). OVRHAUL does NOT scratch, abrade or otherwise injure the motor. The 'pick-up' speed, and hill climbing performance were increased ENORMOUSLY. Car runs practically as well as when new."

Industrial Testing Laboratory, Inc.

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If you would like to try this amazing mineral discovery without risk, use the coupon below or send a 1-cent POSTCARD for free sample to

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OVRHAUL CO.
D-912, Kansas City, Mo.

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I built a sales organization that sold over a million automobile tires and tubes. I took untrained and trained men and taught them how to sell profitably. Ovrhaul in my judgment has greater possibilities than anything I have seen in the past 10 years. Join hands with me—a splendid business with quick profits should be yours. Start today by mailing the coupon for *free sample.*

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B. L. Mellinger, Pres.
Ovrhaul Co., D-912, Kansas City, Mo.

Without cost or obligation, send me at once a FREE SAMPLE. Also show me your big money-making plan.

Name.....

Address.....

City..... State.....

THRILLING WONDER STORIES

The Magazine of Prophetic Fiction

VOL. 9 No. 2

APRIL, 1937

IN THE NEXT ISSUE

MENACE FROM THE MICROCOSM
A Complete Novelette of Worlds Within Worlds
By
JOHN RUSSELL FEARN

LOST IN TIME
An Exciting Novelette of Dimensional Secrets
By
ARTHUR LEO ZAGAT

THE CHESSBOARD OF MARS
A Novelette of Super-Telepathy
By
EANDO BINDER

THE MOLTEN BULLET
A Story of Astronomical Doom
By
ANTHONY RUD

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ON THE COVER

The lone avenger of space, the mysterious Wanderer, whose identity no man knows, meets his traditional enemy and the reptile-beings of a distant world. This painting depicts a scene from the story by Dr. Arch Carr—WANDERER OF THE VOID.

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Manuscripts must be accompanied by self-addressed, stamped envelopes, and are submitted at the author's risk.

35

BUT JIM, I DON'T SEE HOW WE CAN AFFORD TO MARRY.
MARY'S RIGHT. I REALLY CAN'T SUPPORT A WIFE.
GUESS I HAVEN'T A RIGHT TO ASK A GIRL LIKE MARY TO MARRY AN ORDINARY MECHANIC.
LOOK HERE, N.R.I. HAS TRAINED HUNDREDS OF MEN LIKE ME TO MAKE GOOD MONEY I GUESS I'LL GET THAT FREE BOOK
THIS IS SWELL FUN, AND I AM BEGINNING TO MAKE MONEY ON THE SIDE ALREADY. RADIO SURE IS FULL OF OPPORTUNITIES FOR TRAINED MEN.
YOU CERTAINLY KNOW RADIO. MINE NEVER SOUNDED BETTER
"THANKS" YOU SEE I HAVE TAKEN N.R.I. TRAINING
OH! JIM, IT'S WONDERFUL. NOW YOURE ON THE WAY TO SUCCESS
YES MARY, AND THERE'S A REAL FUTURE FOR US IN THIS RADIO FIELD.

I'LL TRAIN YOU AT HOME
In Your Spare Time For A GOOD RADIO JOB

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Mail the coupon now for "Rich Rewards in Radio." It's free to any fellow over 16 years old. It describes Radio's spare time and full time opportunities, also those coming in Television; tells about my Training in Radio and Television; shows you actual letters from men I have trained, telling what they are doing and earning; tells about my Money Back Agreement. MAIL COUPON in an envelope, or paste on a post card—NOW!

J. E. SMITH, President, Dept. 7D09
National Radio Institute, Washington, D. C.

HERE'S PROOF THAT MY TRAINING PAYS

Chief Operator Broadcasting Station

"When I completed 20 lessons, I obtained my Radio Broadcast Operator's license and immediately joined Station WMPC, where I am now Chief Operator."—HOLLIS F. HAYES, 85 Madison St., Lapeer, Mich.

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J. E. SMITH, President, Dept. 7D09
National Radio Institute, Washington, D. C.

Dear Mr. Smith: Without obligating me, send "Rich Rewards in Radio," which points out the spare time and full time opportunities in Radio and explains your 50-50 method of training men at home in spare time to become Radio Experts. (Please Write Plainly.)

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ADDRESS.....

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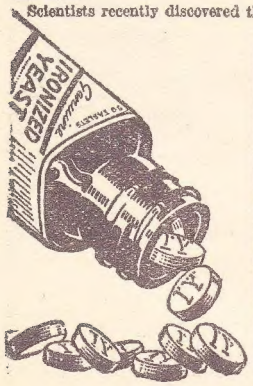

7 REASONS WHY

1. Rich red blood, necessary to nourish and build up the body is promoted where more iron is needed.
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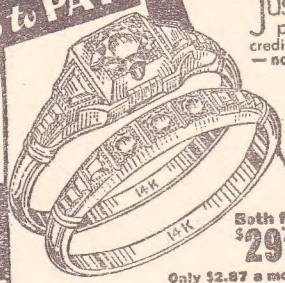

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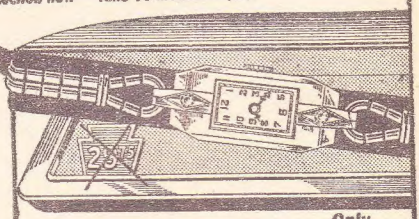

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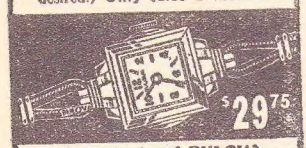

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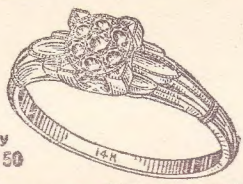

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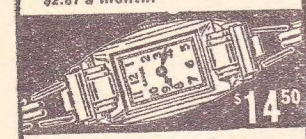

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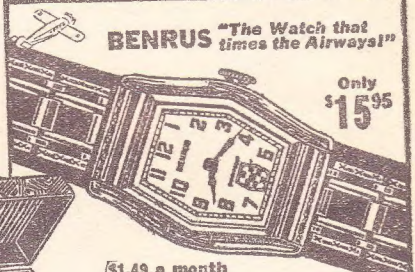

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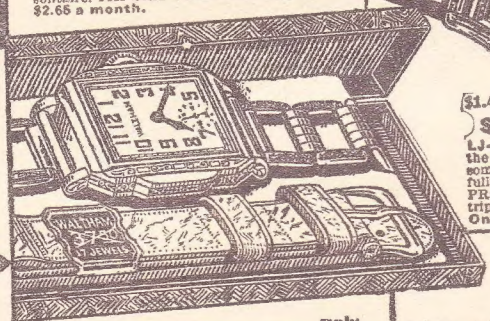

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The Story Behind the Story

FOURTH-DIMENSIONAL tales, time-traveling stories, interplanetary yarns, biological fantasies, astronomical catastrophes — what is the *why* for all these varieties of science fiction? We read an interplanetary novelette, are fascinated by some of the stimulating ideas contained therein, then sit back and admire the writer's ingenuity.

That a vast percentage of the readers of THRILLING WONDER STORIES are vitally concerned regarding the origins, backgrounds and themes of the stories they read has already been demonstrated conclusively by their numerous letters of approbation since the inception of this department.

It's an absorbing game going behind the scenes, looking right over the author's shoulder at the half-started page in his typewriter.

But here's a word of warning. Don't anesthetize the effect of the stories by consulting the following letters prior to reading the works they tell about. In several letters the authors tip their hands —and what is intended to be a surprise in the story is frankly discussed. So turn back here only after you've read the entire issue.

UNIVERSAL DOOM

JUDGMENT SUN, by EANDO BINDER, is a mighty interesting story from its dramatic start to the surprising climax. Here's how Mr. Binder explains the genesis of his novelette:

The idea behind JUDGMENT SUN was one of those that strike suddenly. I had been vacuously casting about for a good plot, but wanted to get away from the usual themes. How about something really appalling in the way of Earthly dooms, but at the same time something close to the ground? It may have been my subconscious grilling that suddenly gave life to the idea of the sun falling down on Earth. There was a menace or a terror that was personal—one that each reader would feel menaced him.

From there it was a natural step to split the story into separate episodes, to indicate how universal, how far reaching the doom was. It was a human interest theme, and as such had to be developed from the angle of human emotion, rather than action. The jungle scene suggested itself immediately, for what can shake a man's guilt out of his secret soul quicker than the knowledge of doom—and judgment? And so with the other scenes. Each was the choice out of dozens or hundreds of similar episodes that might be occurring anywhere on Earth during those tumultuous hours.

The science of the story is frankly subordinate to the human interest. It called for no more stretch of imagination than the usual doom story, but had to be plausible for the sake of realism. For that reason the "ether-strain" explanation had to be complete, but sketchy in order to take up as little space as possible.

I have always been of the opinion, right or wrong, that science fiction needs much more of human interest. With the influence that the late Weinbaum exercised on science-fiction, I am glad to note a definite trend toward the humanizing of its once so cold and lifeless characters. We need scientists that are not wooden puppets; villains that are humanly, yet viciously, motivated; heroes that go more by the heart than by the mind; and menaces that hit us between the eyes.

I do not mean that we should stop exploring the immeasurable reaches of space, or halt the progress of super-science, or limit the boundless delving of imagination, in our stories, but I do believe we at the other side of the editorial desk should not hesitate to have our characters act in accordance with human nature. Too often our hero follows a psychology path laid out by a framework of science, and fails to be fundamentally human.

At any rate, the story of THE JUDGMENT SUN attempts to show the probable reaction of humanity to the panic of world's end, as characterized by a few chosen examples of its collective hordes. If it creates in the reader the slightest thrill of personal danger, it has hit its mark. Otherwise it has missed it completely and ingloriously.

FUTURE WARFARE

AUTHUR L. ZAGAT'S novelette, THE FLIGHT OF THE SILVER EAGLE, is a plausible account of what might happen in a future war between forces depending mainly on scientific weapons for supremacy. Here's what Mr. Zagat has to say regarding the development of his story:

The pattern of life does not change though the environment, perhaps even the form of Man undergoes a constant mutation. Through the ages the fundamentals of this thing we call living remain the same; loyalty and treachery, selflessness and greed, patriotism and treason, self-seeking and self-sacrifice, friendship and enmity, love and hate, adventure and desuetude.

It was the conflict and interplay of these that furnished with the warp of his tales the earliest Cro-Magnon story-weaver, crouching shaggy and brute-faced in the communal cave and dispelling with the magic of his grunted, monosyllabic speech the tribe's shuddering dread of the sabre-tooth tiger whose roar beat out of the fearful dark against the portal boulder. They composed the lay of the silk-ribboned troubadour, strumming his lyre in the castle's high-raftered hall while armored sentries paced the battlements. They furbish the pages of printed books and vibrate through the ether on the wings of a modern miracle.

Tomorrow—who knows by what unthought-of medium they will reach the brains and hearts and dreams of men. But always they were, and are, and will be, unaltered.

"Once upon a time" Attila's hordes swept ravening to the conquest of a world. Once Alexander, and Genghis Khan fought for universal empire. Once Napoleon closed a fist knuckled with cannon upon all Europe. Today —listen to the pound of the forge, the roar of the furnace fires, the hissing of chemists' acids fashioning new weapons for an old attack. . . .

And tomorrow? Tomorrow it will be the same as yesterday. In the near future the would-be conqueror may come from some race newly reborn to lust for dominance. In the dim reaches of Time to Come he may sweep upon Terra from some distant Planet, from

(Concluded on page 12)

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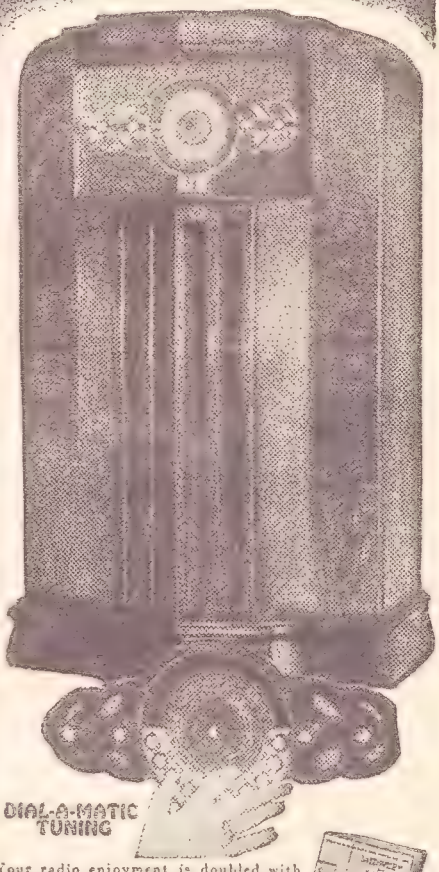

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THE STORY BEHIND THE STORY

(Concluded from page 10)

some Sun incredibly far across incredible Space. But come he will. . . .

And he will be fought with courage. With devotion and skill and ingenuity set against the might he deems overwhelming, but always and ever with courage.

When the fight is over, won or lost, some yarn-spinner whose primal germ lies unguessed in your loins or mine, or that of the elevator boy who just closed the gate in your anteroom, will sing the saga of those newer heroes.

To anticipate some narrator who lies curled in the womb of Things to Be, to peer a little behind the veil that screens That Which Is to Happen, I wrote FLIGHT OF THE SILVER EAGLE. That adventure will not occur, to be sure. But some other adventure whose human fundamentals will be just the same is as certain to occur as that in this next instant I will complete this sentence.

MYSTERY MAN OF SPACE

WANDERER OF THE VOID, by Dr. ARCH CARR, the cover story for this issue, carries a surprise ending that we're certain few readers will anticipate. Here's how Dr. Carr planned his interplanetary short:

I wanted to write a story about space piracy and a lone wolf crusader who, for reasons known only to himself, waged a fierce and single-handed warfare against these buccaneers of the skies.

This crusader would be a man of mystery, of course; his identity unknown on any planet. It would be necessary, therefore, to mask him, for he must often come in contact with space patrolmen and others.

The idea of making him a metal man governed by an organic brain seemed good. But where was I to get the human intelligence which must inhabit this brain? Then I made use of an idea that I had had in mind for some time—that of liberating the human intelligence by subjecting the body to an electrical wave whose frequency was the same as that of the body upon which it was directed.

This, too, seemed good; I could take the intelligence from someone who had been victimized by pirates and thus provide my crusader with his motive.

The story was started and action precipitated by having the child become affected by a harmonic of the wave directed upon her father. And so it was in this manner that WANDERER OF THE VOID came to be written.

A DYING PLANET

NEIL R. JONES' fascinating novelette of Earth's last stand, and of Man's first space migration, was written after some considerable attention had been devoted to the theme by the author. Jones did a careful job on this, as you'll realize from reading this:

THE ASTOUNDING EXODUS explains itself. It is the conception of a dying world, with humanity still persisting in spite of adversity. It is proved that planets have age, that they become old and uninhabitable. Their best ages of existence fade away. H. G. Wells' "The Time Machine" afforded me much food for thought on the subject.

It is extremely doubtful that mankind will carry on for five million years, or a million more years for that matter. As a group, he is like the jug that is carried to the well too often. There are too many things which may happen to him. Yet, there still remains a possibility that he may struggle onward for five million years. Regarding this possibility, I have presented but one viewpoint of what might happen, what he might be like, yet there is nothing too definite on which to base this assumption. Too many things can happen to change history, environment and man himself. Man's evolution is guided largely by environment and his own initiative.

It is scarcely to be taken for granted that the course of the world's civilization shall be forward. There will be inevitable retrogression. Mankind will, to all probabilities, rise and fall, change form and shape, revert to degenerate savagery, return again to a civilized state. Mankind is menaced with all forms of destruction, including himself, for Man is often Man's worst enemy. I have drawn a very conservative conception of the change wrought in Man after five million years, for it is to be expected that he may assume an even more radical appearance than that suggested in the tale.

Man long ago lost his tail and most of the hair which entirely covered his body. His appendix, too, is due to become passe. In time, with the help of science, he may come to subsist entirely upon radiated energy; this, after having supplemented his digestive diet with more and more of the radiated energy until finally the digestive organs have become extinct. When Earth grows old, Man, if he be sufficiently intelligent, must find a new world peculiarly adapted to him. It is most likely that during the rise and fall of humanity throughout the ages, space flying will be rediscovered and lost many times. There may even be visitors from beyond our own Solar System.

Man's occasional retrogressions to savagery and animalism will probably be swifter than his forward returns, evolution following the line of least resistance. That he will become the foodless and sleepless creature depicted in my story is but one of myriad possibilities, for many things can happen to him in so long a time. No one can with any certainty anticipate the far-flung destiny of Man; in the light of reasonable consideration, they may only conjecture.

ATOMIC ADVENTURE

RAY CUMMINGS will always be famous for his stories of atomic exploration. Here's how the author of ELIXIR OF DOOM first conceived this theme:

Once I was a very earnest young businessman. I took a subway ride. I sat idly staring at the advertisements over the seats across from me. My attention focussed on an ad of the Quaker Oats Company. It showed the portly figure of a Quaker gentleman in a three-cornered hat. He held in his hand a box of oats, on which was a picture of the same gentleman holding a similar package. And on that package I could distinguish a still smaller Quaker still holding another tiny package.

I stared spellbound. I began to wonder if, by going closer to the ad, I would see a fourth smaller Quaker? And a fifth? If I had a microscope—and the printing were mathematically perfect—how many could I see?

An infinite number! Quaker Oats, down into the infinity of smallness!

I went home, seized pencil and paper. Thus my first atomic story, "The Girl in the Golden Atom," was born. And it has served as inspiration for all my other science fiction.

But I was blissfully ignorant. In writing my first story, I violated every rule of plot construction and handling. For instance, I called my hero the Very Young Man. When the story was in proof, an irritated proofreader phoned me, asking for a name for the damned hero. I told him that I didn't know, except that he was the Very Young Man, and would he please leave me alone, because I didn't want to be bothered.

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The JUDGMENT

A Complete Novelette of Doomsday Panic

By EANDO BINDER

Author of "S. O. S. in Space," "The Hormone Menace," etc.

CHAPTER I

World's End

THE earth was falling into the sun!

There was no doubt about it. It was to be seen with one's own eyes! In the Western Hemisphere, the people on the Atlantic coast saw a swollen sun arise from the sea. Blood-red and distorted by uneven refraction, it reared above the horizon like a giant eye of doom.

It seemed, to fishermen staring awestruck over the waters, that this incredible sun that was four times larger than usual, hung for a moment as though too heavy to rise. Or as though it were gathering strength for a titanic effort to pursue its ageless course despite increased mass.

There it hung for an instant. Then, like a cosmic, bloated leech, swelled by some nameless feast of celestial vampirism, it shoved its ponderous, unbelievable bulk above sea level. Blood-hued, puffed like a strained balloon, insanely overgrown like a malignant toadstool, this monster sun loomed into the sky, defiling its pure, dainty blue.

The fishermen had seen many and many a sun swollen by refraction during the dawn, but never had they seen such a huge orb spew from the eastern waves. And when the passage of an hour failed to reduce this awful phe-

In the back of his mind each

Earth Faces Destruction—and Only One

The JUDGMENT SUN

A Complete Novelette of Doomsday Panic

By

EANDO BINDER

Author of "S. O. S. in Space," "The Hormone Menace," etc.

In the back of his mind each person knew that the world was coming to an end

CHAPTER I

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The fishermen had seen many and many a sun swollen by refraction during the dawn, but never had they seen such a huge orb spew from the eastern waves. And when the passage of an hour failed to reduce this awful phenomenon, and made it certain that it was to remain, the fishermen frantically hoisted sail. Their only thought was to flee from this ominous thing.

Faces white beneath the salt-spray tan, they turned away and refused to look again at the hideous, enlarged globe of fire.

The leviathan sun flamed its way up into the heavens. It seemed to

Earth Faces Destruction—and Only One Man Dares to Match Wits with the Cosmos!

person knew that the world was coming to an end

cally hoisted sail. Their only thought globe of fire.

Man Dares to Match Wits with the Cosmos!

fuse the sky together, so that it ran molten in streaks of ultramarine and glowing yellow. Beneath it, the ocean seemed to lose its deep blue-green and become crystal clear because of the piercing flood of rays from above.

Then this stupendous sun, as though Phaeton-driven, lifted itself ponderously, for all the people of that part of the world to see, and a rising volume of fearful, gasping cries seemed to swell upward from millions of throats. The sun! The sun was twice as wide as it should be! Its face was four times larger than normal! What in the name of all the gods was happening?

The answer came to all, to some insidiously, to others hammeringly, to yet others explosively—*the sun is falling down on Earth!* Or to the more scientific-minded who were correct in little details—*Earth is falling into the sun!*

Einstein might have thought for an instant—if any man could be so detached in nature—ah! a chance to demonstrate the basic principle of relativity at one stroke to all the world. For, whichever way you put it, sun onto Earth, or Earth into sun, the end result was the same!

Great catastrophes and holocausts of the past paled into utter insignificance beside this one. The great Chicago fire, the four-year carnage of the World War, even the legendary sinking of Atlantis—what were they compared to this world doom? Staggering millions had been wiped out by the Black Plague of medieval times, perhaps one-third of the existing population, but here all—*all* must die! There would be no younger generation to clean up and begin anew.

This was that inconceivable thing—death for all. The human mind, no more than it can think upon its own personal death without an alarming unrest, could not really grasp the thought of universal doom without going blank. Minds that did fully absorb the horrific thought, those minds went mad. But in the majority of people, a temporary barrier of delusionary amnesia kept them from realizing what it meant when their cracked lips spoke out the doom. One can imagine people walking around like shell-shock victims, muttering:

"Everyone is going to die—everyone on Earth!" and then grinning foolishly at the absurdity.

Yet in the back of his mind each person knew, knew in such a horribly positive way, that all were going to die, the whole world at once and as one. It ran like a moan through the seared atmosphere—"Everyone is going to die!"

Everyone is going to die!
Everyone—is—going—to—die!
EVERYONE!

AT Williams Bay, Wisconsin, a group of scientists, both professional and academic, got together at eight o'clock in the morning of that day of doom. Some had driven up from Chicago, others had come by train and bus, one had even flown up there to Yerkes Observatory, instinctively seeking out astronomical authority. The answer must be here.

Yet for all their hopes, these men could not fail to notice that the air was tropically warm and the humidity almost insufferable. Even if Earth did stop its mad plunge sunward, the increased temperature would drive civilization toward the poles.

At last a murmur rose from the troubled crowd gathered at the town's small central park. A huge car rolled up and several figures stepped out almost before it had come to a stop. A group of four made its way to the rostrum where on summer evenings the municipal band gave its concerts.

The crowd quieted down as white-haired, portly Professor Hargreave, second official of the Yerkes Observatory, nervously wiped his sweated face and confronted them.

"Gentlemen, I—this is an honor—"

Ridiculous words, yet the crowd did not laugh or smile politely to itself. Momus himself, god of laughter and merriment, would have been powerless to wring a single chuckle from this grim, dazed crowd. Professor Hargreave drew a long breath and continued:

"Well, you all want to know what

the official report on this—this phenomenon is." A murmur of anxious assent came from the audience. "Well, it seems—that is—dammit all, gentlemen, we have no report! And I don't know what you got me down here for in the first place. Did you expect that if we said the earth was not falling into the sun, that the thing would promptly change back to normal? *What do your own eyes tell you?*"

The crowd gasped and seemed to huddle together.

"About the only report I could give you is something you all know anyway. That the sun's apparent diameter is almost twice normal, which means that it has approached within fifty million miles. It is too early yet to figure the rate at which Earth is moving—he drew out the next word with an effort—"sunward, but it must be at least at a speed of one thousand miles per second.

"Unbelievable as it seems, our planet is already as close to the sun as Mercury at its furthest aphelion! The lag in rising temperature, which should result, can be explained by our dense atmosphere, which is acting as a protective blanket. But when the atmosphere becomes saturated with heat—"

He broke off, as though the rest were too horrible, and finished lamely, "Well, that's all I can say—"

He turned away with a gesture of dismissal. The crowd stirred but did not break up. It seemed reluctant to go away without some word of hope. But what word of hope could there be?

HARGREAVE was about to step off the platform, half angry at having been cajoled here to tell them that two plus two was four. Hardly anyone noticed the calm-faced, tall young man who threaded his way toward the rostrum and finally stepped on it.

"Just a minute!"

A hundred pairs of eyes swung about in surprise, stared at him curiously. The young man raised his voice as he went on:

"Professor Hargreave and gentlemen, *I* can tell you something about this phenomenon. I can tell you, for instance, why Earth is falling into the sun!"

"You can tell us *why?*" Hargreave echoed, and all the crowd echoed his words mentally.

"Yes." The young man looked at them blandly. He seemed perfectly at ease. He paled a little, though, as he sensed a sudden murderous mood arising in the group. How did he dare to stand there, calm and unafraid, at a time like this?

His face became serious suddenly. "I can give you a reason for this event," he said earnestly.

CHAPTER II

Man's Fate

SIMULTANEOUSLY, thousands of miles away, a drama concerning, not millions of men, but only two, was being played in lonely isolation.

The steaming furnace of the jungle had been around them for three days—three sleepless, grueling days. At last Cabel turned like an infuriated animal. His gross, bearded face, sweaty and haggardly lined, worked savagely.

"Damn you, Robinson, you're killing me!" he panted, sucking in the hot, miasmal air with straining lungs. "No sleep for two nights, just march, march, march! I'm carrying both our packs, and when I want water, you torture me with a few drops. And these two bags of dust weigh a ton! I tell you I can't—I won't go on!"

The grin that came to young Burt Robinson's face was diabolic.

"I tell you you're killing me!" screamed Cabel, making a desperate lunge. Burt side-stepped with a short, harsh laugh, and pulled out a pistol. It was Cabel's own gun. Cabel, growling, slid to one knee. He made a futile attempt to hunch the double pack off his aching, tormented shoulders, but Burt's knots held, as they had for three days.

The younger man wiped his sweaty

hands on his shirt, then took from his pocket a folded piece of paper, opened it up. In his clear script were the words:

I confess to the murder of William Johnson, with a knife owned by Mayla, our native guide and porter, whom I also murdered.
Signed

"Ready to oblige?" rasped Burt, waving the paper.

Cabel looked up, eyes like fevered coals between the matted hair hanging down over his forehead.

"Never, damn you! I'm going to last this out, Robinson, see if I don't. I've had twenty years of jungle, and it's never beaten me yet. They don't come any tougher than me. Come on!"

Cabel forced himself to rocking legs and staggered along the fern-clogged trail. Burt put away the paper and followed. Immediately, with their exertion, the frightful heat clothed them in almost unendurable suffocation.

Stabbing rays of the sun, like molten bars of steel, played a constant tattoo on their clothing, which already seemed on fire. Burt could not guess the temperature, but he swore to himself it was the hottest day in history.

But this torture of heat did not bother him as much as the fact that Cabel was bearing up miraculously, load, short water rations, and all. Burt frowned. Before nightfall they would reach the river. If Cabel did not crack before then, he might very well last it out. The row up the river would not be as much of a grind as this jungle trek. Was Cabel to win out in this grim game?

At camp three days before, while Burt had been out hauling water from the spring, Cabel had knifed Bill Johnson in the back, and then had shot Mayla, the Indian porter, whose knife he had used. Burt Robinson had been saved by returning unexpectedly by way of the rock path, surprising Cabel, and getting the drop on him.

Burt had almost killed Cabel in rage, seeing Johnson's agonized face, but he could not kill a man, even one like Cabel, in cold blood. Thereupon, he had decided to wring from him a confession to insure his punishment by law up at Koniko. Cabel had sneered confidently. Then they had started on this journey into Inferno, with Burt carrying the two guns and promising Cabel the worst five-day hell he had ever imagined.

Burt had no pity for the stumbling, moaning man ahead of him. Pity for *him?* For three years he, Cabel and Bill Johnson, and faithful Mayla had worked their bonanza. Had sweated, toiled, laughed side by side. They had panned their dried, well hidden creek bed for one hundred and fifty thousand dollars in dust and small nuggets. Enough for all. Plenty!

THEN Cabel, greed-ridden, had revealed the cupidity he had held in check for those three years. He had planned the triple murder, knowing a story of attack by wild Indians, backed by a generous heap of dust, would carry at Koniko.

What incredible fortitude kept Cabel on his feet after this three-day eternity of hellfire? Even Burt, unencumbered, felt himself on the verge of sunstroke. And he was younger, stronger than Cabel.

The two men crossed an open patch of lush-grown ground, and here the sun beat down with hammers of blinding flame. Burt could not resist a maddened urge to curse the fiery orb above. A huge, stinging drop of sweat touched one eyeball, burning it, so that he had to rub his eye clear, but he looked again. And again—raising his hand and peering through the fingers. His lips made a soundless exclamation of amazement.

Cabel was moving on doggedly, head hanging. When they had crossed the clearing, Burt called a halt. Cabel threw himself, pack and all, on the sawgrass beside the trail, panting like a spent fox. His bloodshot eyes peered up mockingly from between the steaming tangle of his hair as Burt stood over him.

"Haul out your little paper, sonny," sneered Cabel, "so I can spit at it."

He drew the flap of leather that was his tongue between his cracked lips.

Burt looked down at the murderer. "Cabel," he said, sawing off the words, "you won't live to enjoy the fortune we made. You're going to face your Maker with blood fresh on your hands!"

"Stow it!" croaked Cabel. "You haven't the spunk to kill me."

"Cabel, look at the sun!"

The murderer peered upward toward the sun. His first careless glance changed to a wide-eyed stare. An exclamation ripped from his heat-lacerated lips.

"Good God! What's the matter with the sun?" he gasped. "The heat's got us—it looks too big!"

"The heat's going to *get* us, you mean!" hissed Burt steamily. "Cabel, do you know what that means that we see? It means the Earth is falling into the sun! It must have been going on for hours, maybe days, but we didn't notice. Except that I think you'll agree this has been the hottest three days we've ever had, even in this Devil's sinkhole."

Cabel's haggard face showed his abysmal fear. "It can't be!" he mumbled, swallowing with a throat that had nothing to swallow. "Maybe it's a—a mirage!"

"Whatever it is," retorted Burt grimly, "that's going on between heaven and Earth, I'm not going to let up on you. Get going!"

Burt, driving the murderer along pitilessly, saw at last a chance to break him. Let his tortured mind labor under the two burdens of secret murder and a burning doom, while the aching, sweating physical grind tore his nerves to shreds.

When the afternoon sun, a huge bloated orb, reached its peak of hellish intensity, Cabel broke. Screaming like a madman, he flung himself tremblingly under a tree, as if to hide from the pitiless sun.

"It's growing!" he babbled. "I saw it with my own eyes—never heat like this before—coming down on us—Why did I kill Johnson! Blood! Blood—"

THE confession was signed. They went on with Burt carrying his own pack. Burt had given Cabel his fill of water. It was not till an hour later that Burt realized the murderer had cracked completely. He listened, horrified, as the broken man in front hissed:

"Damn you, sun, *you* won't get me! They're going to hang me—"

And Burt Robinson, rowing a grinning, vacant-eyed Cabel up the river, felt for the first time in full force the stunning realization of Earth's doom. He had avenged the murder of his friend, but to what avail?

* * * *

". . . if you can believe me, gentlemen," earnestly finished the young man in knickers. The crowd had not stirred since he first had begun to speak.

"Just who are you?" demanded Professor Hargreave.

"Well, nobody," confessed the young man with a wry grin. "That is, my name isn't known except to my friends and relatives and the minister who baptized me. The name is Terry Blackwell. I'm an amateur astronomer, use an eight-inch refractor, home-made mounting."

"That's neither here nor there." Hargreave's puffy, florid face was grim, sweat-beaded. "The thing is, what proof have you for your—ah—quite hare-brained explanation of this unprecedented phenomenon?"

"Proof?" Terry Blackwell frowned a bit. "I have proof—of sorts. That is, I have a series of photographs of the ether-strain in the past three months of its approach toward the sun."

Professor Hargreave looked at him sternly. "And you didn't reveal this knowledge, or theory at least, of yours till this last, fatal moment?"

A look of angry pain came into the young man's eyes. "This morning at 5:15 a. m. I tried to get an audience at Yerkes," he said slowly. "I was refused admittance! A month ago I wrote a letter to Yerkes, offering to show my photographs, but the reply was a cold refusal, signed by yourself! It is not easy, I can assure you,

for an amateur to gain a hearing."

The Yerkes astronomer flushed deeply. Hargreave remembered the letter vaguely, and recalled, too, that he had chuckled over it. Strange how little things could turn up with the devastating force of a hurricane, in the sweep of tumultuous events.

"Well, we'll see your photographs," said Hargreave at last, gruffly. "Where are they?"

"At my home — Geneva — hour's drive," responded Terry. "Perhaps we'd better hurry?"

"Hurry—yes," agreed the astronomer, jerking himself up. "Come, my car."

CHAPTER III

Stars in Their Courses

A YEAR before Robert McClaugh, Ph.D., had said: "I believe my ten years of research are coming to a head. Atomic power lies just ahead!"

Six months before he had stated: "The power of the atom can be released by a suitable concentration of cosmic rays!"

One month before he had cried excitedly: "Look, Vogel, my artificial cosmic rays already have the power to split the nitrogen atom!"

A week before he had spoken nervously: "Vogel, I dare not try it. Who knows but what the release of total energy in even a thimbleful of gas might be the fuse to set the whole world aflame?"

"But what are you going to do?" Vogel had asked.

"Forget it for the time being," McClaugh had muttered. "Controlled atomic energy would be the world's greatest blessing. But escaping, it would be world-destruction. Since I don't know whether it is controllable with my ionized screen, I'll have to work out a sure method. There can be no half-cocked guesswork with this demon-force."

And McClaugh, with Vogel's assistance, had begun what might well be the task of years, to find a quencher that would as easily snuff atomic power as water puts out flame.

Then something had occurred to put a new face on the whole thing. Vogel had announced it with a dazed expressionlessness. McClaugh had listened with a detached curiosity.

"Come, come, man!" McClaugh scoffed at last. "What are you trying to say, that the earth is falling into the sun?"

"I don't know how else," Vogel said doggedly, "you can explain the sun being four times or more its usual size!"

"Why, you're serious!" stated McClaugh. Then he dashed outside his laboratory home to see for himself. Everything was lit by an unnatural brightness this hot morning. People hurried here and there with fear on their faces. McClaugh put up his hand and squinted at the sun between his fingers. It was unmistakably a larger sun than had ever shone on Earth in the history of man!

"What do you think, sir?" Vogel asked when they went back inside. His lips trembled. He wiped perspiration from his forehead.

"I think it's splendid," retorted McClaugh, without sarcasm.

Vogel stared. "But, professor, it means the doom of all Earth! Everyone is going to die!"

"Exactly, everyone is going to die." The old scientist looked speculatively at his young assistant. "Vogel, do you think it would make much difference if everyone died a few hours beforehand? Would you, for instance, care much if you died now or three days later, if in both cases the death was inevitable?"

"Sir—I don't understand—I—"

"Fool!" barked McClaugh in quick temper. "Naturally the quicker death is the more desirable. Death itself is not so terrifying; the suspense of waiting for it is far worse. Isn't that so?"

"Yes, sir. But we don't know for sure the earth will plunge all the way to the sun. It may stop somewhere and take up a new orbit."

"That we must find out, Vogel. I want you to call up all the newspaper offices and radio stations and ask for

official reports, if any." His eyes held a peculiar light. "In the meantime—" He whirled on the motionless, dazed Vogel. "Well!" he roared.

The young assistant ran like a frightened rabbit. A half hour later he sought the scientist and found him down in the basement workroom.

"I've tried everywhere," Vogel announced: "There have been no official reports from anywhere. The newspaper offices have pleaded with Yerkes for a statement, but they refuse as yet."

McCLAUGH'S eyes still had a peculiar glint in them. "Do you know what that means, Vogel? Their refusal to report means they fear the worst. The earth *is* going to fall into the sun!"

"I called my mother, too," murmured Vogel, biting his lip to hold back a scream that pressed in his throat. "She wants me to come home —frightened, I guess. May I go, sir?"

"Yes, of course—of course." The old scientist's tone was preoccupied. He was busily engaged in examining the large electrical apparatus in the center of the room.

"Professor, what did you mean a while ago when you asked if I would prefer—er, death now or later?"

"Nothing. Nothing at all," hummed the aged scientist. He looked up fiercely as the assistant stood there. "Well!" Vogel left with the echoes of that peremptory roar.

As soon as the assistant left, McClaugh ran to the door, locked it. Then he gazed at the apparatus with eagerness. Here was the machine that could rend asunder a mere puff of gas and extract from it untold power. But the proof of it lay in the trying, and so far he had not dared try.

He had not dared to increase the intensity of his artificial cosmic ray beam to the point where it would not merely knock electrons loose from gas atoms, but disrupt the nuclei themselves! In the nuclei lay the inconceivable hammer of atomic power. His cosmic rays were the hand that would wield that hammer.

McClaugh's heart began to pound madly, an hour later, when the apparatus had been made quite ready. One twist of that red dial and a Titan would leap from the machine. But would his screen of ionized mercury hold the vortex of potential force? Or would it burst free and—

McClaugh hesitated at the last minute. His mind revolved again the train of thought that had brought him this far. Earth was doomed by an inexplicable fall toward the sun. If the vortex escaped and accomplished its progressive disintegration of the earth, it would simply be a quicker doom.

But what if Earth was not doomed by the sun?

Sweating, McClaugh felt his mind whirling. The driving, all-consuming urge of ten years of striving toward this goal gathered itself and rolled forward like a juggernaut in his mind, mowing down all other considerations.

Atomic power! Controlled atomic power or—holocaust!

The low, powerful hum of the internal transformers seemed to beat time to his throbbing thoughts. White-faced dials seemed to stare at him like watching eyes. Watching this man who had fate in his hands.

Power or destruction? Which would it be?

McClaugh grasped the red dial with a nervous hand. The die was cast. With a savage finality he twisted the rheostat control. He staggered back as a tremendous shock rocked the floor. The whine of great power sang through the apparatus. McClaugh closed his eyes, waiting for the microcosmic explosion that would destroy a world.

But the machine hummed steadily on!

He ran to the dials, face alight. They told their story—the story of ten billion watts accumulated within the mercury chamber. And it had held! He had succeeded in producing controlled atomic power! The earth had a legacy of endless, costless power!

McClaugh grounded the mercury chamber, dazed in his triumph, and watched the dials show the slow outpouring of ten billion watts into the capacious bosom of Earth.

THEN suddenly his face contorted horribly. His eyes swam in a film of blood-tears.

For in this moment of victory, a temporarily forgotten thought swept over him with crushing fury.

Irony of ironies! He had given this great gift to a world that would have no chance to use it. For the earth was plunging into the sun!

* * * *

. . . Terry Blackwell shuffled through the pack of prints and finally picked out one. He handed it to Professor Hargreave.

"That's about the best I took," Terry said. "It shows quite clearly the distortions of the star field, especially around its edges."

Hargreave wiped a rivulet of sweat from his cheek, took the print eagerly.

It showed a small portion of the night sky, with an appreciable dusting of stars. Just below center was noticeable a small patch in which the stars ran in curved streaks to form a circle. Within that circle the star images were superimposed on one another to form a mottled design.

"The rest of these prints," continued Terry, "show the three months' progress of the ether-strain among the background of constellations, as it slowly but surely approached the sun. I did not know how close it was till one night it occulted Jupiter—that is, it threw Jupiter's image about three minutes of arc out of place. Then I knew it was comparatively close to Earth!"

Hargreave and the officials with him looked over the prints carefully. One of the officials said finally:

"Couldn't this be a fault in the lens of your camera, or in your telescope?"

Strangely, it was Hargreave who took Terry's part then. "No, because the distortion takes different positions in the print, which could not be explained that way. Besides—besides, I seem to recall that several prints were ruined recently up at the Observatory by distortions exactly like these. We thought it was in the photographic paper and threw them away."

"That's right!" said one of the officials. "I remember that one print was ruined by a fault in Scorpio, about a month ago."

"June sixth, to be exact," confirmed Terry, holding up the print for that date. If the group had had any serious doubts left, they vanished utterly when this photograph showed the tail of Scorpio twisted out of place.

Hargreave looked at Terry with something of deep respect. "Young man," he said excitedly, "I think there isn't any doubt about it any more. Incredible as it seems, your ether-strain theory must be right. It plunged into the solar system, or rather the solar system met up with it, and as a result—"

They all knew the result—a great, menacing sun that had apparently burst its linear bonds and become a threat of doom over a world of creatures who were, in the last analysis, less bound by the laws of man than the laws of nature.

Before a blanket of censorship had muffed the blarings of radio commentators an hour before, there had been stark reports of rioting hundreds, suicidal thousands, hysterical millions in Europe, which had already viewed the Brobdingnagian sun for twelve hours. What was happening in America, the Lord only knew.

Hargreave glanced at his watch. It was ten o'clock. Wiping off the sweat sprinkled over his boiled-looking skin with a limp and already saturated handkerchief, he gasped:

"Telephone! Quickly!"

CHAPTER IV

Sunrise

OUTWARDLY, Jose Estaban was calm and proud, with his back against the high stone wall of the prison courtyard. If there were any mental worms gnawing at his brain, it did not show on his saturnine face with its mocking smile. He had been that way the night before, during the hasty military trial.

The solemn, dark faces of the enemy had filled with hate as they turned to him. There had been the formal recital of his many acts of espionage. Then the faces had turned to triumphant glee as the head-officer pronounced the sentence in cold, harsh tones:

"Jose Estaban, known as *El Diablo Espia,* your crimes against the nation of Bolivia merit death. *Fucilado a la solida del sol*—you will be shot—at sunrise!"

Jose Estaban looked up and saw the rosy fingers of approaching dawn tremble through the gloom. The ten men of the guard, at an order from their captain, made a right turn on their heels, and marched toward the farther wall, against which lay ten rifles.

Jose stared stolidly ahead. *El capitan* stalked up. "Blindfold, *senor?*" He tendered a black cloth.

Jose smiled the saturnine smile that had won him the name of the Devil Spy.

"Save it, *mi Capitan,*" he murmured softly, "for mourning when *el Chaco Boreal,* the land for which we fight, passes into the hands of Paraguay!"

"Brave words for a dead man!" leered the captain. He whirled and walked to a position beside the ten riflemen. As he glanced impatiently out the east gate for the soon-to-rise sun, his lieutenant spoke in his ear:

"Would it not be best, *mi Capitan,* to have the men fire right now, even though the sun has not yet risen, lest he escape in some way?"

"The *puerco* will not escape."

"Five times before was he captured, and five times he escaped!" reminded the under-officer. He rolled his eyes superstitiously. "They say the devil himself watches over this man. *Caramba!* Look—how he grins as he stands there, as though he expects not to die, but to have the laugh over us. The men are nervous, too, and—"

"Silence, *perro!*" hissed the Bolivian Captain. "There is no miracle can save him. We will wait for a punctual sun to give the signal of his death."

But as the slow minutes passed in ominous silence, with the flush of near-sunrise growing in strength, even the tough-souled captain became nervous. The men fidgeted, shuffled their feet.

The lieutenant stood with mouth half open, as if prepared at any moment to see the devil himself arrive and whisk his protégé away. For *el Diablo Espia* had been almost a myth for two years, one whose activities had been devilishly cunning.

In the gloom, the spy's eyes seemed to gleam like small fires. His lips were curled in mockery. Suddenly his eyes flicked to the east-gate, and widened slightly. For there he saw a girl, white arms straining to tear down the solid bars of steel. At the same time the tip of the sun peeped over the horizon, and a shaft of brightness speared into the shadowy courtyard.

El capitan, awaiting this signal, raised an arm. The riflemen brought up their guns, took aim. A scream intercepted the word: *"fucil—"*

The Bolivian captain glanced toward the gate, saw the girl, and motioned for the men to lower their rifles. *El capitan,* was of the old school, with chivalry deeply imbedded in his nature. He strode toward the girl at the east-gate.

"Senorita, I beg of you to depart for the time. It is no pretty sight,

this. Particularly for so charming a girl!"

DARK eyes aflame, the girl spoke tremulously:

"*Mi Capitan,* please do not kill this man. Make him a prisoner instead, till the war is over!"

"*Caramba!* Are you mad? He is our nation's worst enemy!"

"Then let me go to him—die with him!" pleaded the girl wildly. "I love him—I sheltered him for many days, before he was captured, so I am a traitor to Bolivia! Do you hear? You must kill me with him because I am a traitor!"

"*Diablo!* That is impossible, *senorita.* I will not believe it. More, it is foolishness. You cannot die with him."

"Then let me be with him for a tiny moment! I will do anything, anything, if you will grant me that!"

The stern look on the Bolivian's face dissolved to reflection. "You love this man, *si?* You will do anything to be with him for a moment, *si?* You will, perhaps, let me do all in my power to comfort you—afterward? *Comprendo,* lovely one?"

Soft, black eyes tragic, the girl nodded. "Let me in to him and you will not regret it."

Grinning in satisfaction, the captain called for one of his men to open the steel gate. "But one minute I will give you," he admonished the girl. Like a bird seeking its nest, the girl ran to Jose, enfolded him in trembling arms.

The doomed man lifted up her face, kissed her tenderly. "In some afterlife we will be reunited, Niña. Our love cannot die."

They clung to one another fiercely for a moment, then Jose pushed her away firmly. "But go now. Death awaits me."

"*O mi dios!* Then with you I die!" The girl flung herself about, faced the firing squad with her body in front of his.

At the other side of the courtyard, the men watching this scene exchanged glances. The Devil Spy's doom was being delayed, as if death itself were reluctant to take him.

A flood of rays from the east gate now lit up the tableau with supernal brightness. The girl's white clothes seemed to expand into a blazing cloak that hid the man behind. *El capitan* cursed and started forward.

When he had gone half way, a dark streak plunged toward the east gate. It was *el Diablo Espia* making a run for the steel portal that had been carelessly left unlocked after the entrance of the girl!

"Shoot him—kill him!" screamed the Bolivian captain, frantically jerking out his own pistol.

The distance was a hundred feet. Of the ten men that brought up their rifles, one must surely have aimed true. But only one bullet was fired, that of *el capitan,* and it failed to stop the flying man, even though it made a trail of spattered blood over the grey cobblestones.

The rest of the men stood staring toward the east-gate, watched *el Diablo Espia* escape from it. It was not him they watched, however.

It was the incredible thing beyond.

THEIR widening, dazed eyes beheld the enormous bulk of an enchanted sun now hanging just over the horizon. It was the color of the droplets of blood that marked the escaped spy's trail. Misshapen by refraction, it floated there like the Gargantuan heart of some celestial Cyclops. Cloud wisps scurrying by made it seem to pulsate with nameless life.

It was a wizard's trick and the Bolivian riflemen, as they reeled back in fright, had no doubt that it was the doing of the devil himself, to insure the escape of his ward, the Devil Spy!

* * * *

. . . Professor Hargreave slammed down the receiver in disgust. "Can't get Washington for love or money!" he said explosively. "I suppose every crank and fool in the country is on the wire. Talk about a voice crying in the wilderness—"

He jumped to his feet. "But something has to be done! You, Bradley, take my car and get to Milwaukee as fast as you can. Get a general mes-

sage over the radio if you have to buy out a station! We can't let anything stop us. Kincaid, you take a plane for Washington and get to somebody high up if you have to murder to do it. In the meantime, I'll try to get a call on the phone through, so one of the three of us ought to get our message across. Get going, men!"

The two men dashed out, faces set in determination. Hargreave turned immediately to the telephone, barking into it viciously. When long distance had completed his connection, he rapped:

"Dr. Morris Birge, Director of Biology—hurry!"

Over his shoulder he said half mumblingly to Terry:

"He's a government man. Agricultural Bureau. Connections in—*what!*" For a moment he listened, then hung up slowly. His eyes were pained as he turned to Terry.

"Suicide!" he muttered dazedly. "An hour ago—swallowed a dose of curare. My friend. One night he confided in me that his wild, passionate youth weighed heavily on his mind. But for him to—"

The astronomer's eyes changed suddenly. He grabbed up the phone again, hopefully. A few minutes later he jumped to his feet with a curse.

"Velter dead too!" he groaned. "Shot this morning during a jailbreak, at Joliet prison. He was a G-man, hot on the trail of somebody down there. Now he's gone too. I don't know who to try next for a contact at the White House. But I must have it!"

"Maybe I can help!" cried Terry. He continued at Hargreave's gruff

"Well?"

"Wisconsin's Senator Jordan has a summer home here in Geneva. Just down the street. If he's home—"

"Come on!" shouted Hargreave, pushing his two-hundred-pound bulk toward the door at an actual run. They went out into the hot afternoon. Since dawn the overgrown sun had increased its girth by another diameter. It was now nine times as large in face area as normally! The heat seemed insufferable.

"That's the house there," pointed Terry, and a moment later they were panting up the steps of a broad, shaded verandah.

"Pray God he's here!" exclaimed Hargreave fervently.

CHAPTER V

Cosmic Laughter

THE God of Irony looked down on Earth that day and laughed. He saw a world of creatures disturbed from their normal pursuit of life, and it was funny to watch their painful antics.

In New York, a drunk who had made his usual nightly rounds, saw the dawn of an impossible sun and laughed himself to sleep on somebody's doorstep in the thought that pink elephants and snakes were passé.

Near Chicago, two gangsters returning from a "ride" with blood fresh on their hands, stared amazedly, superstitiously, at the blood-red Titan sun, and ran head-on into a milk truck, dying instantly.

The God of Irony laughed louder.

A young man, up all night in his shabby rent-due room, bitterly convinced that life was not worth living if one could not work and eat, withdrew the fatal blade from near his throat at the sound of outside shouting that came with the dawn, and when learning of the sun-doom, cursed the fate that was inevitably going to end his life while he was so young.

After three days and nights of unselfish, sleepless labor, their rescue tunnel reached the cave-in and they brought up the buried miner in the dawn of that fateful day, and his tears of joy and relief changed into a raging curse when he learned that he had escaped one doom only to be in time for another.

An early bird evangelist, haranguing a gullible audience, gleefully launched into his pet theme of hellfire and brimstone, from which there was no escape except through becoming the soul of purity and repentance that he was, but one could never describe

the strange green color of his apoplectic face when the sun-doom became manifest.

A patient, earnest astronomer gave a shout of joy to the amazement of his colleague, who had just announced the news of Earth falling into the sun, and exulted: "Now I'll get superlative photographs of the sunspots, perhaps solve their mystery!"

Brushing back his long hair, the starving poet again invaded the offices of the *News*. This time the weary editor accepted some of his work, thinking:

"Any junk will do for a filler today." And, at the same time that the poet inwardly exulted:

"Perhaps, at long last, they see what I am trying to say. Maybe this is a beginning—for me—"

The God of Irony was now doubled up with uncontrollable mirth. . . .

A prima donna threw back her head and sang to the small, music-thirsty audience, sang as never before—sang in the face of certain doom, gloriously, triumphantly—with magnificent defiance, strangely free of the haunting fear that her voice was failing. For the first time in months—years—she was giving a performance of real brilliance—a performance that was to go down into oblivion!

Destined to produce a masterpiece, an author scribbled away madly all day in his locked room, unaware of the doom that threatened to make his production worthless.

AL, the janitor, awoke with great joy in his heart, for the day before he had cashed in his $50,000 sweepstake's ticket, and today he would begin spending it in glorious abandonment, but an hour later little lights of madness came into his eyes as the overbrilliant sunlight shone on a fistful of green papers with numbers on them.

The God of Irony cast his merry eyes over the rest of the world to see what other insanely amusing things there were among these queer beings who had Mind and Imagination. . . .

Down in Africa, two warring, bloodthirsty tribes spent the day watching the fantastic puffed sun with superstitious eyes, but as night came, they fell to their fighting with unabated vigor, in the light of a full moon.

The Mandarin smoothed his silken robes thoughtfully after hearing that the Celestial Fire was about to consume Earth for its sins, then ordered his frightened servants out, bidding them go to the writings of Confucius for comfort, and when alone he took a strong pair of shears to clip off the four-inch long finger nails that had secretly irked him all his life.

"*Marsch!*" shouted the Nazi Kommandant, and when a white-faced under-officer pointed mutely up at the super-sun, the Kommandant shook his head fiercely, saying:

"This all day marching drill with full pack, goes on should Hell itself come to Earth! *Marsch!*"

Babbitt had had a wonderful two weeks in the South Seas—idle days, soft moonlit nights, dark-eyed women, music, it had been heavenly, and when awakened at noon, the news struck him like a physical blow, so that he wailed:

"I knew it couldn't last!"

The God of Irony had had a marvelous day, but his laughter stopped suddenly. . . .

Oogli, the Eskimo, up in the far Arctic, went complacently on with his fishing and skinning, for the sun could not rise here to astonish him for two more months of night-time.

Up in the mountains, the blind hermit continued to fill his simple, contented soul with the poetry of babbling brooks and caroling birds, blissfully unconscious of the huge, glowering sun over his head.

And a park-bench philosopher, typical of his kind, watched the madness of panic-stricken mankind with a secret pity that they were so fearful of death.

* * * *

Senator James Jordan came to the door in a maroon bathrobe over pajamas whose brilliantly striped pant legs showed at the bottom. He yawned.

"Up late last night—or this morn-

ing," he explained with an apologetic grin. "Wife's away. Guess I'm alone in the house. Funny Mrs. Riggs—our housekeeper—hasn't showed up yet. Damned hot this morning. Well, what can I do for you gentlemen?"

He started as he looked again at their faces. "Say, what's up? You two look like the end of the world is coming."

"Not we two—the world looks like that," said Hargreave dryly. He pointed through the foliage of the tall trees that shaded the porch. "Look at that sun!"

SENATOR JORDAN'S sleepy look changed to startled bewilderment with the speed of a lightning flash. He rubbed his eyes, looked again, then turned dazedly to his visitors.

"The earth is falling into the sun!"

"The earth is falling into the sun, of course," said Hargreave impatiently, perhaps a little sneeringly at the senator's helplessness, he who could harangue election crowds for hours over nothing at all. "There's a story behind this that I can't go into now. Time's too short. What I'm here for is a telephone connection with the White House. In fact, with the President himself, or Secretary of War, or somebody in high authority. Senator, I've got to have it! What can you do?"

The senator managed to shake off his bewilderment, and to quell the icy panic in his heart. He put through a call on the phone, when they had entered the house. After forty minutes of sweating, shouting, blustering effort, while Hargreave and Terry stood by anxiously, Jordan announced that he had the Secretary of State's office on the wire.

Hargreave grabbed the phone eagerly, began speaking with the words coming out in a tumble.

In a period of twenty-four hours, the incredible, overgrown sun had revealed itself to all the peoples of Earth, from Greenwich to far India, from the Arctic to the Antipodes. And as it climbed the skies, it grew ever larger and fiercer, and in like degree, the people's fears grew larger and fiercer.

For a while things went calmly. Centuries and ages of civilizing restraint became a bulwark against rising terror and madness. Authorities broadcast soothing, but unconvincing, statements that the earth would undoubtedly take up a new orbit.

There were little cases of violence and madness here and there that grew with the rapidity of an explosion. A reign of terror started. The less re-

[*Turn Page*]

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The depression's over! Again this is the Land of Opportunity. Every day you see alert young men being sky-rocketed to the top. Haven't you wondered what the secret is? Well, many things go to make up success. But one thing is *absolutely necessary.* Good health!

And constipation is contrary to perfect health. It can rob you of looks, energy, ambition! You're likely to pass up opportunities, liable to miss the boat.

So if *you* want to step up your energy, if *you* want a quick mind and a healthy body, remember this one thing—*see that your bowels move regularly!*

But the *way* you move your bowels is important. Instead of taking a laxative that disturbs your system and upsets your stomach, take gentle Ex-Lax.

Ex-Lax limits its action entirely to the intestines, where the actual constipation exists. It gives the intestines a *gentle nudge,* emptying the bowels thoroughly—but easily and comfortably. Ex-Lax works in such a simple, common-sense way. And it is such a pleasure to take. Ex-Lax tastes just like delicious chocolate. At all drug stores—10c and 25c. (In Canada—15c and 35c.)

strained, more panicky element of Earth's population cast all judgment to the wind and became maddened beasts. Bloodshed and violence spread their gory fingers over the world. A tidal wave of insanity, suicide and lawlessness followed the giant sun around the planet. The puny barriers of law and order, sufficient ordinarily, were as though non-existent before this new wave of world-panic.

"Everyone is going to die!"

That was the terrible sword that began to lay civilization low. If everyone was going to die in a few hours or days, what did anything matter? What did law and order and morality mean? Nothing, in the face of this cataclysmic doom!

It was a black page in the history of civilization that day. As the super-sun rose to midday heights over any certain longitude, the masses underneath launched into reckless careers. Each did as his buried inclinations dictated, without regard for others. The most secret of inhibitions came to light of day.

Murder, rapine, insanity stalked the lands. Fires, riots, mob violence swelled the day's mad doings. Feats of heroism and sacrifice occurred side by side with unnameable atrocities. Sun-cults sprang up and grew to giddy heights in the course of a few hours.

Unnumbered homes were emptied whose occupants would never again come back. Thousands of children cried piteously for parents who were dead or missing. Saints were born that day, and devils. A legion of Good Samaritans struggled to allay the pain and torture and misfortune that rode the world roughshod.

There were those who preached, and those who comforted, and those who spread calm like oil on troubled waves.

But there were those many who sadistically set about displaying their twisted mental complexes.

AND over it all rode the monster sun, symbol of doom.

Its actual effect was more mental than anything, for neither the increased heat or light could account for what went on. It was just its constant, inexorable, insidious presence overhead that pressed on shocked brains. An earthquake strikes the heart with sharp terror, but leaves the mind free to think ahead to eventual escape, barring bad luck. But this immense sun, this sun of doom, growing ever larger, sucking the earth into its maw of superflame, left no room for hope.

From the pulpit it was called the Judgment Sun, coming down to fulfill the prophecy of the Day of Doom.

The way things were going, the civilized world would be a shambles by evening of that first day. What it would be the next day, no one dared speculate. The final, unthinkable picture was that of a planet half of whose population was dead, and the other half insane—plunging sunward.

And where was the word of hope? Where was an Atlas to come to the rescue and hold up the falling Heavens? Or was Earth inevitably doomed?

At about one o'clock in the middle of the Western Hemisphere, a concerted gasp went up from the land. A spark had been ignited at Yerkes and spread from there like wildfire. A second spark had grown at Washington and its greater flood of waves spanned the Atlantic, and later the Pacific.

The pulse that began to beat strongly at Washington set up resonant pulses in London, Paris, Berlin, Moscow, and finally Bombay, Hongkong, Tokyo, Sydney, Capetown. From these centers the blessed spark spread from city to city, from community to community, by radio, telegraph, telephone and the printed page.

A great hush came over Earth. Its furious travail ceased. Dazed eyes dimmed with tears. Torn hearts ceased to bleed. Shrieks turned to soft sobs. Terror gave way to relief. Fear vanished into shame.

People whispered the news to one another—

Earth is not doomed! The increased size of the sun is an illusion! There is nothing to worry about!

CHAPTER VI

End of the Doom

THE prayer of thanks that arose from millions of hearts must have inundated the Elysian shores of heaven above.

But the God of Irony laughed most over this, for he had seen the grimmest Play in all history enacted with a backdrop of Illusion!

He had watched scientists take heat measurements early in the day and find a barely noticeable increase in the average heat. They had tried to spread the word that Earth could not be nearer the sun, but to no avail.

By a mad coincidence, that fateful day had been one of the hottest of the year. The imagination of man's mind had swelled the temperature to unreasoning heights! Seeing is believing—never before had that platitude been demonstrated with more irresistible force!

Observatories in Asia, which continent had first seen the phenomenon, had made triangulation calculations that night with the planets and had found nothing changed from normal. But their message, although faster than the super-sun's course around Earth, had made no impression, for wasn't it likely that *all* the planets, as well as Earth, were falling toward the sun?

Numerous other little things—each sufficient in itself to prove the illusion to the reasoning mind—revealed the cosmic hoax: gravity and tide observations, light pressure tests, the paradoxical exactness of sunrise.

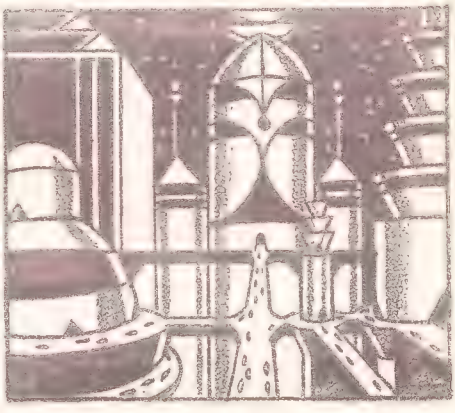
But they had gone unheeded, these prophets of the illusion, for in one detail they had all failed in their message to Earth's unreasoning multitudes. Not one of them had thought to give a reason for the illusion. Terry Blackwell's explanation owed its sudden universal acceptance to the fact that it accounted for the illusion, as well as named it such.

Terry Blackwell found himself a world figure by midnight. Saved from further terror, relieved of black, heart-chilling despair, the population

SUB-ATOMIC SECRETS!

Inter-Molecular Life Threatens to Subjugate Earth IN

MENACE FROM THE MICROCOSM



A Complete Novelette of Worlds within Worlds

By JOHN RUSSELL FEARN

In the Next Issue of THRILLING WONDER STORIES

demanded a hero of worship for the soothing message of peace. He tried to escape it, but at midnight found himself standing before a microphone on a worldwide hookup.

"What shall I say?" gulped Terry nervously.

Professor Hargreave smiled indulgently. "It doesn't matter much what you say. You could say *boop-boop-a-doop* and they would take it for pearly wisdom. But you may as well give the world a résumé of your whole theory, just about as you gave it up at Yerkes this morning."

"But the theory is wild guesswork," pleaded Terry. "It happens to account for the illusion, by luck, perhaps. I'm not a real scientist at all. I—"

"If you're not a real scientist, I'd like to meet one," said Hargreave. He signaled to the commentator. The latter, who had been frantically waving for them to approach the microphone, and had been filling the time with the usual play-up, sighed in relief.

"People of Earth!" he concluded, realizing the tremendousness of the occasion in that phrase, "People of Earth—I give you now—Mr. Terry Blackwell, the young man who this day proved the great illusion!"

"LADIES and gentlemen, it was about three months ago," Terry began, "that I photographed Saturn with my eight-inch refractor telescope. The print showed a small, faint distortion in one corner. The next night I tried again and found an identical fault in the photograph.

"From then on, with more luck than skill, I succeeded in trailing the almost unnoticeable distortion photographically as it moved across the stars. It was quite invisible by visual observation. I followed it with photography for those three months and unmistakably it grew larger and more pronounced!

"One evening it came abreast of Jupiter, magnified it, and threw it out of line, as well as the immediate field of stars. That indicated that this mysterious enigma was close to us, already between Earth and Jupiter.

"Not having the necessary mathematical skill to plot its course, I had no idea it would eventually come between Earth and sun. But it did, and in doing so, caused the enlargement of the sun we have observed.

"About a week ago I started seriously thinking of an explanation for it. What strange thing, at least the size of the sun, transparent but highly refractive, could be drifting through space? Since it was completely uncatalogued in modern science, I had a clear field in which to speculate. As a result, I've worked out a theory for it which later scientific research may modify, but it is this:

"Somewhere and sometime in the cosmos, a dense and dark star like the companion of Sirius, collided with another large star and was knocked out of its normal orbit in the universe, or fused with it to become a nova. This dead star must have been incredibly dense, perhaps half composed of neutronium which weighs sixty million tons to the cubic inch. And its gravitational field must have been immeasureably stronger than any we know. So strong, in fact—"

Terry drew a long breath and continued, for he knew that hundreds of astronomers and other scientists would be listening:

"So strong, in fact, that the warp it produced in space became permanent! Thus, when the dead star itself was knocked away, the ether-strain it had made went on in the old orbit! Like the shell of a nut continuing to exist long after the kernel which grew it has been eaten away by worms.

"The collision itself may have happened untold trillions of years ago, and perhaps in some other galaxy. But the ether-strain pursued its lone course, unaffected by the laws that govern the rest of the universe, and came finally to our galaxy and our Solar System.

"By deduction from its low velocity, it must have entered the Solar System, within the orbit of Pluto, about five years ago. But it would

have been impossible to detect it then, for even so bright an object as the sun looks merely like a star from Pluto's distance. And this ether-strain is absolutely invisible.

"It was not detectable till it had approached quite near—within one-half billion miles—and then only as a faint smudge on a sensitive photographic plate. So it may be said that the ether-strain sneaked up on us like an invisible snake. I count it only as great good luck that I happened to catch it on my plate, since it only took up about one millionth of the total sky area!

"After entering the Solar System, and because its velocity relative to the sun was just a little more than Earth's orbital velocity, it contrived to hang in between Earth and sun for these many hours. Its huge area is very gradually drawing ahead of the Earth and will in a few hours undoubtedly clear away.

"There is only one thing left to mention and explain: the way it magnified the sun's image. The effect of such a magnification will be understood if it is compared to a telescope lens with a high refractive index, but a very long focus. Like a giant hand-glass, this sphere of warped space hung between the direct rays of the sun and Earth, and bent the light rays to a focus for Earthly eyes.

"The ether-strain has the ability to bend light, in accordance with Einstein's laws, but in a greater degree than ever observed before, because its warp of space is greater than we have ever known. Paradoxically, this warp does not have any gravitational influence, as it should have, for Einstein says the force of gravity is simply a curvature of space. This can be explained by assuming that when space has been abnormally warped, its gravitational effects link into a closed circle, no longer able to exert external influence.

"And so," concluded Terry, "this extremely startling phenomenon in our skies today has been merely an optical illusion!"

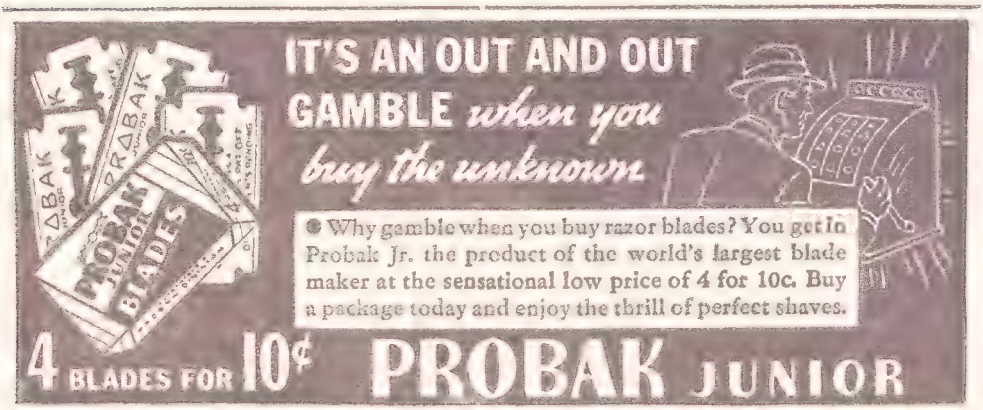
Hargreave had a moment before he received a paper from the announcer. He stepped before the microphone, as Terry backed away.

"The Kioto Observatory in Japan," he read, "reports that the sun that has just risen over their land is once again normal. The phenomenon lasted exactly twenty-eight hours."

Next Issue: LOST IN TIME

A Complete Novelette of An Earthman's Dimensional Travels Into the Future, by ARTHUR LEO ZAGAT

and Many Other Stories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The INVINCIBLE MIDGE

Thrice in the Annals of Man the Human Race is Faced with Extinction!

Links in the chain of humanity

By PAUL ERNST

Author of "Microscopic Giants," "Death Dives Deep," etc.

THE sentinels of the tree people crouched in the highest branches of their communal dwelling place and stared fearfully toward the west.

Beneath them the activities of the tree village were stilled. Men, women and children crouched on quivering haunches, each near a tree bole up which quick ascent could be made if necessary. The strings of tough vines crudely fastened from tree to tree, making a sort of rough platform thirty feet above the teeming ground, were empty. The hairy, mighty-thewed folk crouched, and stared as the sentinels in the treetops above did —toward the west.

There, where the white-hot sun was dying, was the danger source. From there death came; death on two colossal hind legs, towering as high as a tree itself.

When the hairy tree people built their aerial village thirty feet above the death-infested ground, they had hoped to know a new safety. For a while they had. The saber-toothed tiger, the monstrous serpent, the great

bear, were baffled by that height. They could be beaten off by stone ax and club before they reached it.

But this new menace, which threatened the very race, made a mockery of their sanctuary.

In the highest branch of the conifer tree in the center of the aerial village crouched Taljuck the Quick. Near him was the gorillalike form of Ank, strongest man of the tribe.

Ank's thick lips moved, and guttural, chattering sounds were articulated through his heavy, protruding jaws. It was not language; it was a series of symbolic sounds painting simple pictures of the mind.

"You think the Great One will come on this sun-death?"

Taljuck grunted. His jaws were not quite so bestial as those of the other hairy folk. His forehead was a little higher, his eyes a little clearer. His enormous, hairy hands tightened on the odd contrivance he had made during the last four days.

"Who can say? Sometimes the Great One comes, sometimes it does not. But when it does come, it is always at this hour."

Ank's muddy, brutish eyes went to the queer invention in Taljuck's hands.

"You are going to try that on the Great One?"

"Yes. If it comes."

TALUCK looked at the new weapon born of his brain. Fierce pride was in his eyes.

It was a tough, curved length of wood nearly four inches through. From end to end of this was a tiger tendon, scraped, as thick as his little finger. A long straight stick with a sharp stone was tied to one end.

Taljuck placed the blunt end of the stick on the tendon, stretched the heavier stick in a great arc, then relaxed it. The bow and arrow had been born, of Taljuck's brain, though its birth was not to be credited for thousands of centuries; and through it, Taljuck's tribe was to reign supreme for the lives of ten thousand succeeding generations.

"This cannot kill so great a beast at once. But it can pass through the throat and later the thing will die."

"You can send that stick through the Great One's throat?" echoed Ank.

Taljuck fingered the pointed stone at the end of the crude arrow. Eons later, men were to find that and think it a peculiarly shaped ax-head, not realizing the enormous muscles of the men that could use it as an arrowhead.

"It will pierce the throat. I know what it can do—"

A scream arose from below. It came from the downy lips of a young girl—Sor, the Far-Seeing.

"It comes! It comes! I see the Great One's head!"

The tree people rushed here and there, chattering like great apes. One child fell; the hairy mother swung monkeylike to the ground, caught up her offspring, clambered to the heights again.

To the heights—that did not protect against so huge a thing as the Great One!

The sentinels, biggest and strongest men of the tree folk, grunted excitedly to one another. All but Taljuck. Taljuck was silent, bracing himself in the tree-fork with hairy legs while his great hands flexed and loosed the bow and arrow, first of Man's great inventions.

In the semi-circle made by the white sun sinking over the horizon, a head appeared. It was a reptilian head, colossal, its gaping jaws studded with huge teeth. A short, vast throat appeared, then the rest of the body.

The body was a mountain of lizard-flesh and bone carried on two inconceivably enormous legs, with a great tail to help its blundering balance. It hitched over the ground, crushing young trees, making the steamy earth tremble. And as it neared the tree village it reared higher, so that its incredible head was above the level of the hairy people's sanctuary.

The Great One, they called it. Long, long later it was to be named, from its remains, *Tyrannosaurus rex*, the most ferocious animal ever known. This was an anachronism, perhaps the last of its kind on Earth, a freak sur-

vivor of a species supposed to have died out millions of years before the appearance of the hairy folk.

But the tree people did not know that. All they knew was that suddenly, moons ago, this enormous thing had appeared over the skyline at sunset, stalked to their village, and taken five of their number as a tall man might pluck five green gourds in a high tree and gulp them down. Since then the Great One had come at irregular intervals, and always four to seven of their number went down that tremendous maw.

Bowing to the Great One and worshiping it, giving it sacrifices voluntarily, had not placated it. The tribe was in danger of extinction—unless Taljuck's two sticks could somehow save it.

To the highest branches scuttled the tree folk, there to cling like furred fruit. But the highest branches were not high enough. The trees, mighty of girth, were not lofty. A roaring *whoosh* of air was expelled from the Great One's throat, and its basilisk eyes fastened on Sor, the Far-Seeing.

SCREAM after scream ripped from her lips. Her face, just becoming downy with the fine hairs of adolescence, was the color of a lizard's belly. The other tree folk chattered and moaned. Taljuck bent the great bow.

The Great One's jaws gaped as it lumbered toward the tree in which Sor clung, paralyzed. Vine cat-walks were swept away like thread by the monster's bulk. There was a last shriek, a dry clashing of teeth—

"Taljuck! Strike!" Ank grunted in anguish.

In the hands of Taljuck the Quick, the big bow quivered at its full arc. But the Great One was yards from his perch. He did not yet send the long stick, with the sharp stone on it, singing forth as he had learned to do in the days before.

The tyrannosaurus, as though drawn by Taljuck's appalled but steady eyes, turned toward his tree. It lumbered there. Ank chattered, and shrieked in the tree beside him.

"Strike! Taljuck! Strike!"

But still, with steady eyes, Taljuck held the arrow taut on the tiger tendon. The Great One crashed within ten yards.

Shrilling despairing cries, Ank loosed his hold and fell plummetlike to earth, risking death by the fall rather than face the monster longer. He moaned and grunted on the ground with both legs broken so the bone protruded through the hairy flesh, which meant lingering instead of quick death.

And Taljuck, with a grunt, released his stone-tipped stick.

With a thin shriek the arrow cleaved the air. The sharp stone hit the leather-armored throat of the Great One and went on in. The arrow, driven by a force such as is unknown to any muscular framework of man today, buried itself almost to its blunt end in the lizard's flesh.

The monster stopped its rush. Its short front legs went up and its claws raked at the thing that stuck out like a splinter from its streaming neck. Then, with an ear-splitting scream of air from its cavernous body, it came on—toward Taljuck.

Taljuck clung to his tree-fork, as paralyzed as Sor had been. The Great One was not at all harmed by the arrow, it seemed. Dimly its low-ordered nervous system informed its tiny brain that it had been hurt; but its vast strength was unimpaired.

It got to Taljuck's tree, lunged against it, reached for the hairy human midge with gaping jaws. Taljuck the Quick stared at the gaping maw which was streaming gouts of red from the transfixing arrow. The great bow dropped from his nerveless hands.

From other high points, the tree folk screamed and chattered and moaned. The branch on which Taljuck had been was empty. It quivered still with the force of clutching hands that had been torn from it, and that was all.

Taljuck the Quick, first inventor, was pulp in the tooth-studded mouth. But what was this?

The Great One, though only two bodies had gone into its cavern-

mouth, was not crashing after more. It stood motionless beside the tree in which Taljuck had clung. Its expressionless eyes looked toward the west, not toward extra victims.

A thundering, bubbling air-rush came from its transfixed throat. Blood, and hairy fragments that it could not swallow, geysered from its maw. It lurched slowly away from the aerial village.

For a long moment the hairy people watched it go, unable to understand. Then the first timid shout of deliverance keened out, to grow to a chattering, grunting chorus.

The Great One was being driven away! Taljuck's stone-tipped stick had beaten it!

Three days later the tribe feasted on the mound of flesh that lay off toward the west. Ordinarily no death of a man was remembered for three days, individually, in the dim minds of these folk. But they remembered Taljuck's, because he had saved the tribe! They feasted in Taljuck's name, and the men of the village fashioned long sticks to bend, like his, and send stone-tipped lances into the flesh of other animals.

Taljuck the Quick was dead; but the tribe lived on, saved by the living fruit of his brain.

* * * * *

FROM their mountain observatories all over the world, the astronomers peered up the magnifying channels of their three-hundred, and three-hundred-and-fifty-inch telescopes.

In the teeming cities around them, activities were stilled. Men, women and children stood hushed in the streets, and they stared as the astronomers did, up into the sky. For every man's fearful eye, and every man's appalled thoughts, in the year 2114, were on the same object.

The moon!

From that heavenly ball, hanging balloonlike now in the cloudless sky, it seemed that the death of the human race was coming. For the moon was dying; and in its extinction it promised to upheave Earth so that no tiny human mite—perhaps no life at all—would be left on its surface.

The human race had thought itself in a position to live a tranquil and untroubled existence on Earth forever. It had outlawed the horrible wars that had nearly decimated civilization several centuries ago. It had solved the food problem, producing sustenance for Earth billions with only a few hours of work a day for each individual. It had prolonged the span of life to an average of a hundred and ten years.

Man was firmly enthroned, he had thought. And for a time this had been true.

But now this cataclysmic menace from the heavens threatened the entire human race!

In the Mount Everest observatory, Professor Talmadge turned from the eyepiece of the telescope which was so powerful that it would have revealed a man walking on the moon's surface, had there been one there to walk. He stared at his assistant, Tohiki.

"It's the end," he said. "The moon is falling toward Earth at a rapidly accelerating rate."

Tohiki nodded, dark, slanting eyes shining with sad intelligence.

"Even if it fell no further," he said, "it would be the eventual end."

Both were silent, thinking of the catastrophes that had begun at once with the moon's inexplicable subsidence back toward the planet from which it had been torn a million million years ago.

All over the world earthquakes of unbelievable violence had destroyed cities, drained great lakes, created new ones, changing Earth's map at the incidental cost of millions of lives.

All over the world, volcanic eruptions had burst forth on a terrifying scale. Active volcanoes had belched more molten rock in a year than in all their recorded history before.

Old volcanoes became alive again. New ones formed in the most unlikely places; one, ten miles across its jagged new crater, spouted through ancient rock in the Alleghanies,

obliterating all human life as far north as New York and as far south as Washington.

But the worst of the disasters were the floods—ever increasing in height and severity.

At each high tide, the water of the seven seas rolled to new heights, pulled by the increasing drag of the moon. Daily, tidal waves mounted with their roaring crests loftier than they had been the day before.

NO coastal cities of any nation were in existence any longer. A few twisted metal stubs showed where tall buildings had been. A few weed-wracked lines of broken stone indicated streets—when they could be seen at all under low-tide depths. All human beings, save those millions who had been engulfed by the encroaching sea, had long since fled to the inland mountains.

"And still the moon comes closer," murmured the Japanese.

"Still it comes closer," nodded Talmadge. "And it will continue to approach. It will reach the point where the ocean tides rage over the whole face of the Earth, daily. They will submerge all land, even this great crest. Nothing but marine life will endure. In fact, even that may perish, for at this point the moon will probably burst and surround Earth with a belt of a million tiny moons that will blanket us from the sun so that our planet freezes."

Tohiki's intelligent eyes went to a small drawing hung on the observatory wall.

"That may save us," he said.

Talmadge shrugged.

"There is perhaps one chance in ten that a choice few of Earth's people may survive the coming disasters in the Talmadge Retreat. If anything can save us, that can."

The astronomer, who was that rare scholar, a man of general accomplishments in varied fields of science, walked to the drawing and studied it with proud yet fault-finding eyes.

Read in scale, the drawing showed a cavern ten miles across, with a rounded roof a quarter of a mile high which was supported by rows of enormous metal pillars. The cavern was in the base of a mountain, indicated by dotted lines. The outline of the dotted lines was that of Everest itself, showing that the depicted cavern must be under the feet of the two men.

"Shall we call the elected few tonight?" said Tohiki.

Talmadge bit his lips. His eyes, far-seeing and keen, narrowed. Then he nodded.

"Yes. Tonight. We know what is to happen so shortly. There is no reason for delay. And Tohiki—only two thousand people, the best of every walk of life."

"I understand," said Tohiki. Death was in his eyes, as it was in the eyes of Talmadge. But the coming cataclysm was too great for anything but utter, desperate calmness. "Particularly, you want engineers that can handle the atom-disrupter."

"Yes. That, by all means," replied Talmadge.

Tohiki left the observation chamber. Talmadge went over in his mind, for the thousandth time, the one thing that made barely possible the preservation of human life on Earth.

The Talmadge Retreat? No, it was not that. Anyone can excavate a great cave at a mountain's base. It is another matter to feed and clothe two thousand people in it, and give them air to breathe, over centuries of time. This, Talmadge hoped to do with his atom-disrupter.

It was the last great invention of mankind; one which by its very simplicity had baffled science for centuries.

All matter is similar in that it is made from the same building blocks. One substance is made different from another only in that its atoms have varying numbers of protons and electrons. It had been known for a long time that if atoms could be disintegrated to their component parts, and the parts rearranged, any desired element could be produced from the elemental débris. Furthermore, any substance could be contrived synthetically by controlled molecular arrangement.

Starkly, ferociously simple, this fact! And with stark, ferocious simplicity, Talmadge had solved the equation.

He disrupted atoms with heat.

But such heat! Three million degrees Centigrade, produced for a few millionths of a second by electrical discharge through high - tension vacuum tubes! It could not be kept up longer for fear of burning out the apparatus; but those few millionths of a second were enough to strip atoms.

THE re-addition of electrons to produce any given element? Ah, that had been more difficult. But Talmadge had solved it in experiments no less sublime for being empirical: he had discovered that different degrees of heat produced different elements, and had the differences tabulated. Thus by a variation of a few hundred thousand degrees he could take stripped atoms and give you what you liked, from hydrogen to uranium.

From then on it was a mere matter of synthesis to produce anything from the air you breathed to the food you ate—out of rock, metallic ores, or anything else at hand. There were slight variations between the synthetic and the real products. Talmadge's oxygen, for example, had an atomic weight of 16.0003 instead of 16.0001; but these differences had no practical results.

Thus, with the so-called atom-disrupter, Talmadge proposed to keep two thousand human beings existing for indefinite centuries in a cave under the base of Everest—until such time as the planet returned to something like normality after the moon's disruption, once more allowing life on its surface.

Talmadge sighed. He thought his mighty invention was perfected. If it was, the human race had a slight chance of survival. If it was not—

Soberly he looked around the observatory for the last time, absently patted the magnesium rim of the tremendous telescope reflector plate. Then he went out into the sparkling, cold air of Everest's crest, and stepped onto the slow-speed strip of the endless escalator which, in its high-speed outer edge, took him toward the mountain's base at forty miles an hour.

Within ten hours all were assembled in the great cavern in the bowels of the mountain. There were men and women of the highest standing in all branches of science. There were men and women picked because of eugenic, physical factors to keep up the body stamina of the race. There were a few old men, chosen for their extensive learning; but in the main it was a young crowd. Talmadge knew well how necessary for blind race survival was a sound physique.

The cave, in which these people were to live, and their descendants after them, for unimaginable centuries, was ready.

In the center, a domed building rose that was the heart of the place. Down from that went a shaft halfway to the core of the Earth. Up this shaft came Earth's internal and eternal heat, to be transmuted into plentiful power.

Around the shafthead were the bank rows of atom-disrupters where all necessities of life were to be manufactured. Tinned food enough for thirty years was in stock, before the two thousand would have to begin existing on synthetic food pellets.

The entrance into the cavern was a mile-long tunnel from outer air at the base of Everest. This had been blocked up against the future mighty tides by a solid seal of liquescent rock which hardened into a substance like gneiss. Through the center of the mile-long seal, however, had been left a one-inch hole. Down this were lenses in sequence terminating in a fish-eye lens that spread vision. A simple peephole, arranged because the atmospheric disturbances caused by the moon's approach made television impossible.

Talmadge addressed the shivering throng in the cavern.

"Comrades, Earth, as you know, is about to pass into an epoch more violent than any it has suffered since

it cooled enough for life to begin. During this violence we and our descendants hope to exist in here, through flood and fire, through the moon's bursting and blanketing of Earth, through the ensuing glacial period. Mankind's nucleus may struggle up to a reborn world from this cave a thousand years from now, a million—perhaps never. But meanwhile we shall keep the spark of the race alive, I hope."

That was all, and even that was superfluous. All knew why they were here, and what faced them. The calm of catastrophe beyond mortal imagination to visualize held them.

Talmadge turned to the peephole.

It was all very bewildering and incredible. There was no explanation for the suddenness with which it happened. All scientists had agreed that the mounting tides would rise gradually, a little higher each day, until at last all Earth would be daily deluged. And all scientists were wrong.

Talmadge, inventor of the atom-disrupter, turned to that peephole to see for one thunderous instant a thing which was impossible, but which was nevertheless occurring.

Instead of increasing in height gradually, the moon-dragged tide had leaped within a few hours to within a half mile of what should be its eventual maximum!

He had thought to see a dry vista from the mountain's base; had thought it would be weeks before the high plateau would feel its first ripples from the distant ocean. Instead, Talmadge looked through the rock seal to see something that at first he thought was a great mountain chain newly formed, about a quarter of a mile from the fish-eye lens.

Then he saw that the mountain chain was composed of water; was the first really great tidal wave.

A sort of moan left his lips. Mile high, in spite of the altitude to which it had already climbed to reach here, the wall of water rushed toward Everest. Talmadge's stunned eye saw great crests toppling from its highest ridge, to be absorbed by the wall before they could cascade downward, so great was that wall's speed. He saw something like a tiny slug for an instant, near the crest, and realized it was a whale.

He saw white specks on the ground, microscopic in comparison with the tidal wave, swallowed in a half second, and realized that the lofty buildings of the new city of Ebberhow, on Everest's base, had been destroyed as all things pertaining to humanity must have been destroyed along the tidal wave's path.

A wave a mile high! Coming with incalculable speed and force! Talmadge saw the solid wall rush seemingly upon his own defenseless person as it rushed for the far lens, then saw nothing at all, as the water struck the mountain's base.

"Comrades!" he cried, turning from the peephole. "The cataclysm is upon us. The first great wave has struck—"

His voice was lost in the trembling and rumbling of the mountain as all of mighty Everest quivered to the shock of that tremendous wall of water. But the people heard—and Tohiki, with a despairing scream, sprang to Talmadge's side.

He was not quick enough—

TALMADGE ordinarily would have seen his danger as quickly as the agile-witted Tohiki. And God knows he knew enough of hydraulics to realize the incompressibility of water. But the magnitude of what he had seen stunned his brain—and Tohiki was not quick enough.

At one instant Talmadge stood with the back of his head next to the peephole, and at the next instant Talmadge's head had disappeared. His body sank to the floor while over it, from the peephole, roared a one-inch stream of steam and water as straight and solid as a metal bar.

The lenses, pushed before the water column like glass bullets, crashed to atoms against the opposite cavern wall ten miles away. The water column endured for five hundred yards before it feathered to nothingness. It grew in diameter to an inch and a half, two inches, three, before the wave outside passed on and left a glistening,

drenched world to rear bared rocks to the air again.

Then the two thousand in Talmadge's Retreat, with their horrible panic allayed, went to the body of their leader.

Talmadge's head had been sheared off almost as though with a knife, as the lenses shrieked from the peephole. The flesh of his throat at the stub-end was pulped almost to the consistency of whipped cream by the high velocity of the projectiles.

A concerted moan came from the throng in the cave; then shoulders were straightened with grim resolve and faces were turned resolutely toward one another.

Outside was a drowned and lifeless world; one that would be so battered and drowned daily for thousands of years. Inside, their leader, Talmadge, lay dead.

But the protecting seal of his liquescent rock, and the benificent products of his atom-disrupter, lived on after him. The human race had a chance at salvation because of the work of his clear mind.

* * * * *

IN the late afternoon, Talgor the Tall huddled into the protection of his vacuum suit and stared through the transparency of his oxygen helmet at the familiar landscape spreading from the vacuum-walled tower beneath him.

He looked absently at a world as round and smooth as a gigantic billiard ball; a world covered by thin top-soil on which grew patiently nothing but lichenous moss; a world lit dimly by a dark-red sun.

Time was, according to the ancient fables, when the sun had been virile and warm and bright. Men did not have to walk abroad in vacuum suits to keep from freezing in the everlasting cold. Many forms of vegetation, and of animal life, flourished. There had been mountains and valleys, lakes and rivers and oceans.

Then, according to the dim legends, a great satellite whose name was lost in antiquity had fallen on Earth. It had raised tides that raged for uncounted centuries. The tides had smoothed down mountains and filled up depressions. The satellite had broken up, shielding Earth from the sun, and water had frozen into a solid and uniform shell over the world's smooth face.

The countless fragments whirling around Earth had gradually been pounded to dust by meteors, and had vanished, leaving the world again in the sun's rays. But it was a dying sun, now, with little of its original heat.

But before the Great Change legend had it that a handful of men and women had hidden from chaos in the bowels of Earth under a lofty mountain. They had literally eaten rock, tearing down the atoms of whatever material was around them and remaking them into life's necessities. The handful had grown to hundreds of thousands, and the small cave into which they had originally gone had become a vast underground kingdom.

Then they had emerged to the world as it now was—to find that they were not the sole form of life still existing! Another form had evolved across the world from their mountain; a form so alien and foreign, so horrible—

Talgor looked guiltily around, and then, hastily, pressed the little switch which shielded his thoughts from the Masters. Almost since the memory of present men there had been in the transparent oxygen helmets they were forced to wear in Earth's thin atmosphere the familiar transmitter sending thought vibrations to the headpiece receivers of the Masters.

It was only a year ago that Talgor had devised the sensitizor screen which shielded his thoughts from the transmitter. Now he could keep his thoughts secret when they dwelt on Them, though he was aware that death would be his lot if They found it out.

He went on with his bleak thoughts.

During the chaos caused by the fall of Earth's now-forgotten satellite, man had survived in his cave. Across the world cold-blooded life which man had called fish had also survived. Most submarine life had been killed by the battering tidal waves, just as air-

breathing creatures had been killed. But a few had found refuge in an underground ocean.

NO one could guess how many million years ago that had been. No one could theorize about the evolutionary course that gradually followed. All that could be said was that, when Man came forth from his underground empire, the descendants of these cold-blooded marine beings similarly emerged.

They were still cold-blooded, able to freeze and thaw out again without harm. They still breathed oxygen from water: their transparent helmets contained water instead of air. But they walked on four paddlelike legs, clothed their glistening and hairless bodies in vacuum suits, and in their never-blinking, lidless eyes shone intelligence. Much intelligence!

They were bigger than Man in brain as well as bulk. Men had stagnated underground. They had kept alive the atomic knowledge compiled by the nameless hero whose inventive genius had kept the race alive, but had added no new knowledge. The cold-blooded, water-breathing creatures had kept expanding in brain power.

They became the Masters, with human beings as their slaves.

Talgor smiled bitterly. Little enough use men were to the Masters! They were far ahead of men in thinking capacity; their hardy physical points made them better fitted to survive in Earth's present bleakness. Talgor had often thought that the Masters allowed mankind to exist only because of Man's hands.

Marvelous things, hands! With them men and women, the slaves, could build machines more easily than could the Masters with their annoying flippers. They could more easily manufacture the water the Masters needed for their breathing, for long ago all water lying normally on Earth's surface had evaporated.

But, regardless of the purpose, the Masters kept the race of mankind in a bondage none the less horrible for the fact that the great majority of human beings were not versed in the ancient legends and did not know the comparative servitude they were in.

But Talgor knew! He knew that men had once ruled Earth. He knew that men should be superior to these cold and emotionless beings calling themselves Masters.

And he plotted for the return of Man's day!

He stirred in his vacuum suit, and stared over the tower's rim. Below, he saw several dozen small figures moving. They were friends, secretly appointed to meet him here. He went down the tower's core to meet them.

A score of figures moved to join him as he emerged at the tower's base. They were white; colorless in a way inconceivable to mankind of a far earlier day. Their hair was white, their skins were white, their eyes were white save for pale smudges of pupils. Absolutely without color. Talgor the Tall towered among them. He was nearly four feet in height, almost as big as the average Master.

"You have your thought screens switched on?" he said swiftly and without preamble.

All nodded soberly. They were moving on the edge of death, meeting here, conspiring against the Masters, and all knew it poignantly.

"You are ready to risk your lives to the end that the world be cleared of the Masters, and that human beings are supreme again?"

Their white heads inclined a second time.

"You know to the full the bondage in which you are held?"

"I know," said one, voice sounding broken and hoarse through the diaphragm in his helmet. "My woman was taken last year for thinking against the Masters. They took her helmet and vacuum suit from her and watched while she strangled and froze."

"I know," said another. "A short time ago the Masters took my first child. I had allowed the third bank of atom-rearrangers, under my care, to slow for a needed repair and they sought to punish me. They threw her, a little girl, into the rearrangers. I saw her disappear before

my eyes. Then They turned the heat-control to 900,000 degrees, and a ragged blob of codium appeared where my first child had been."

THE others somberly added their tales of horror and oppression. The last concluded on a desperate note—one which Talgor, however, had sensed before.

"The Masters are about to get rid of us, I believe," this man said. "Time and again one or more of us has gone mad and revolted. Some of the Masters have been killed. Some of their machinery has been smashed. They have had several councils in which men are called unstable and a possible menace. They are holding one now. I believe that is their last council!"

Talgor the Tall nodded, with desperate calm.

"I believe you speak the truth. I believe the race of man is lost—unless a weapon I have been working on for nearly a year can save it."

"That is?" inquired the oldest among the rest.

"You shall see."

Talgor led the way into the entrance, through the thick vacuum walls of the tower. It was an ordinary supply tower, one of the smaller and more remote of the hundred towers which were the scattered heart of all life—in which were the latest and finest atomic machines. They were substantially the same as the one which had gone with the handful of human beings into the cavern far in the dim past when the Earth's satellite fell and broke.

The unknown hero of that time had come close to the ultimate with his atom-disrupter; it was possible to make few improvements.

Power was still obtained by borings toward Earth's core—borings that pierced to the very center, now. The nearest available substance was thrown into the disrupters, to emerge after varied heat treatments as the various substances of life, just as had been done in the cavern.

Talgor the Tall led the way to the boring in this particular tower. Beside the two-foot-thick nozzle of pure ardrium, hardest of all known alloys, was a squat bell of transparent substance within which could be seen numberless tubes, topped by a circular grid of some metal none of the men had ever seen before.

"This is the weapon with which I hope to save mankind," said Talgor, his eyes sternly proud as he stared at the bell. "Within this bell heat from the boring is converted to electrical energy, which is in turn transformed back to radiant heat and stepped up in wave length almost to infinity by the tubes. The radiant heat is capable of passing through atmosphere and other transparent substances, to expend its energy on whatever opaque body stops it—up to a range of about ten miles. There its force is dissipated, diminished by the square of the distance traveled. But I think the range will be sufficient."

The others stared at him, awed, frightened, hopeful.

"But the Masters' vacuum suits," objected one, at last. "They may be capable of insulating their bodies against even your radiant heat."

Talgor smiled bleakly.

"Their bodies may be shielded to some extent, but not their heads. For they wear the transparent helmets just as we do, and my radiant heat will pass through transparencies as it does through atmosphere, diminished only by the square of the distance."

"You are sure—" began one of the rest, timidly.

"I am sure of nothing," said Talgor. "I have had no time to experiment properly. The Masters moved too quickly for that. My weapon may kill them—it may not. That is the chance we take. Now you must go quickly. The Masters will be here soon."

"The Masters? Here?"

"Yes. For the past few minutes I have had my thought screen switched off so that they could read my mind and learn of the plot against them here. I concealed only the manner of the weapon itself. Within a few moments the Masters will be here—all of them save the very young and the infirm, darting to crush me before I can menace their race."

THE other men milled around the tower with frightened cries. For generations fear of the Masters had been inbred in them. The knowledge that, in a body, they were coming here now maddened them with fear.

"Leave the tower at once," Talgor's calm voice cracked out. "Prepare to kill all survivors of the Masters' race as soon as I have struck. Prepare to lead mankind back to freedom."

The men streamed all too willingly toward the entrance. But one said: "You, Talgor! What happens to you—"

"Leave the tower instantly, before it is too late!" Talgor interrupted, with a break in his voice.

What would happen to him? He knew only too well what would be his fate—what must be the fate of any man within these walls when his radiant heat transmitter began to function.

The others ran from the tower. From the soles of their metal boots appeared their gravity plates, shielding mass from Earth's gravitational pull. They shot heavenward, soared on stub wings slithering from the arms of their vacuum suits, shot skyward again when altitude was lost in distance, repeated the process, sky-hopping rapidly off to the east. And from the west—

The face of Talgor the Tall paled under his helmet.

The sky to the west seemed to be darkening with a great cloud. Only there had been no such thing as a cloud in the sky for a million years. This blackening was caused by the massed bodies of the Masters—every one capable of movement was rushing to Talgor's tower because of the fragmentary thought-threat he had permitted them to receive. A menace to their race! This one mad human midge must be crushed—then, more leisurely, the rest of the slave race that had lately grown annoying!

Talgor watched from the entrance. The up and down advance of the Masters, like waves of a great black sea, rushed upon him. They towered up in a last ascent before swooping. He could see individual bodies now; monstrous cylindrical bodies with four stubby limbs; heads with staring, lidless eyes glaring out through water-filled helmets.

He leaped to the control of his heat transmitter. His thin white fingers clutched it.

One touch of that ardrium lever and, if his calculations were correct, the human race was saved! It was as tremendously, sublimely simple as that. But he himself—

The thin air outside the tower whistled and shrieked with the cleaving of thousands of stubby wings. Talgor the Tall pulled at the control—

For weeks, along the equatorial belt where life was concentrated, human beings under the leadership of the score who had been last to talk with Talgor destroyed remaining vestiges of the monstrous race that had enslaved Man for thousands of years. The old and the very young; those who had been too distant to get to Talgor's tower with the main body; all the Masters Talgor had not annihilated. Then, with mankind once more enthroned on Earth, they erected a great statue to Talgor where the tower had once been.

Had once been!

There was scant trace of the structure now!

When Talgor had pulled at the control the vacuum walls had blazed and melted, allowing the radiant heat to smite full against the wheeling, towering horde of Masters. The heat had charred their heads, then exploded their helmets as the water within was turned to steam. Only blackened fragments strewed the burned earth for miles around—all that was left of the last grave threat against humanity's existence.

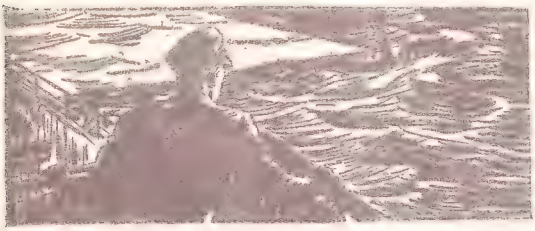
Talgor?

Well, there was no tower left, no trace of its banked machines. There was nothing left where the tower had stood save a distorted transparent bell within which was fused metal.

Talgor had given his life, horribly, when he pulled that control. Talgor was dead.

But the human race lived on.

Out of the Gale Came Cries of Men



Fishermen Blown to Sea in Sinking Boat Saved as Mate Checks Strange Light

"Two days and two nights we were out there drifting helpless in the gale, and all the while we pumped to keep afloat," write William Neher of New York and Warren Brown of Beverly, Mass.

"Time and again we'd sight a ship during the day, but couldn't make them see us. They'd go on by...leaving us to pump again...and put off drowning a little longer.

"But the second night, we figure our pumping is about over, our hands are so swollen we can hardly grip the pump handle, our backs ache like toothache, and we're beginning not to care much, when way off come the pin points of steamer lights. For hours, as those lights came nearer we signalled with our flashlight and when there was a chance of hearing us through the gale, we yelled like wild Indians.

"We owe our lives to Third Mate Charles Guy of this ship, the Tanker A. S. Hansen of the Sabine Transportation Co., Inc., and to the *fresh* DATED 'Eveready' batteries in our flashlight. For it was the light that attracted Mr. Guy, and made him change his course. Soaked by the storm, in use hour after hour, those DATED 'Eveready' batteries lived up to their reputation. If they hadn't we'd be down below there now with Davy Jones. (*Signed*) *W. Neher. Warren S Brown*"

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The DATE-LINE guarantees FRESHNESS

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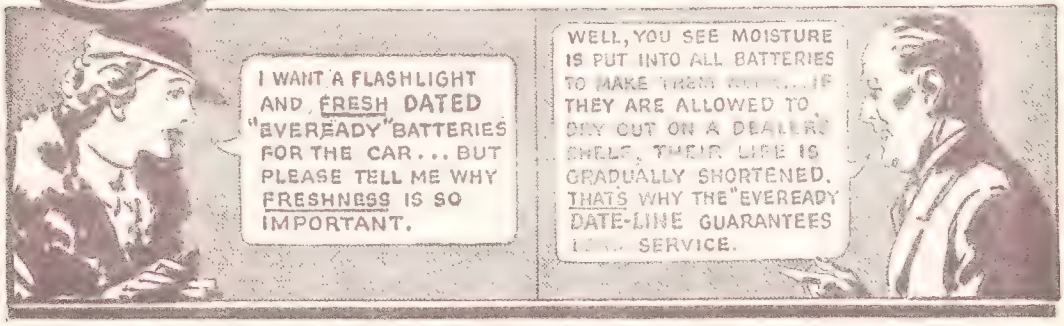
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WELL, YOU SEE MOISTURE IS PUT INTO ALL BATTERIES TO MAKE THEM WORK... IF THEY ARE ALLOWED TO DRY OUT ON A DEALER'S SHELF, THEIR LIFE IS GRADUALLY SHORTENED. THAT'S WHY THE "EVEREADY DATE-LINE GUARANTEES SERVICE.

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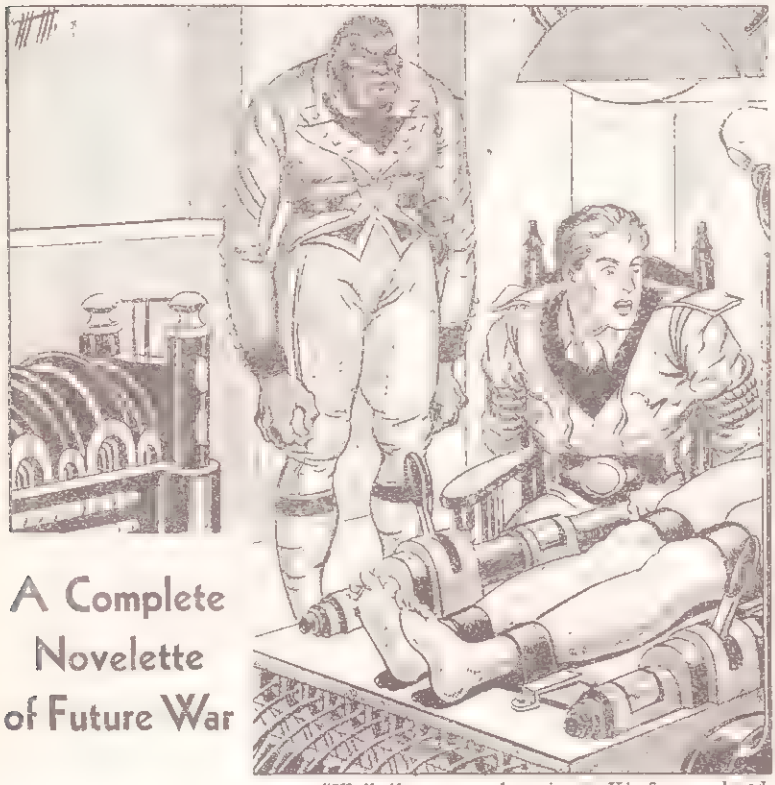


"Well, if you must have it— His fingers closed

A Complete Novelette of Future War

CHAPTER I

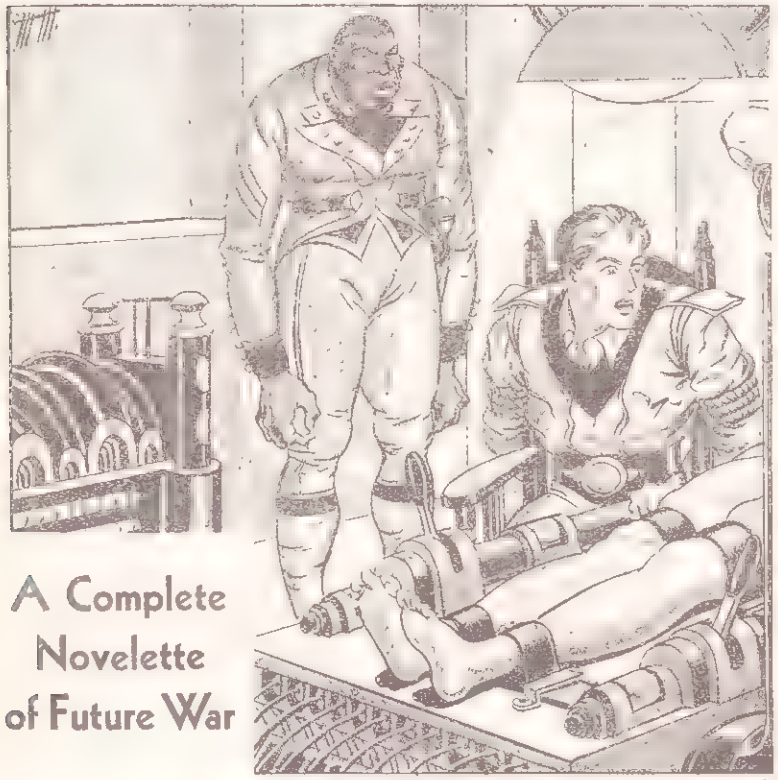
The Empty Stratocar

AGAINST a sky glorious with flung streamers of scarlet and purple, New York's leaping towers and arching aerial streetways traced a prismatic arabesque epitomizing the wonder and the beauty of the Twenty-first Century. But Don Atkins, his lithe, compact body poised on big-thewed legs widespread and firmly planted, was as oblivious to that far-off glory as to the bustle of the Federal Skyport all about him.

He stood beneath the high loom of the landing trap, squinting into the west out of slitted eyes from whose corners weather wrinkles rayed threadlike, and he was conscious of only two things.

Under the yellow silk of his airman's tunic a small, hard lump was cold against his breast. It was the

FLIGHT OF THE SILVER EAGLE



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A Complete Novelette of Future War

By ARTHUR LEO ZAGAT

Author of "The Lanson Screen," "The Land Where Time Stood Still," etc.

Ultra-Modern Science of Days to Come Is Unleashed When Two Powers Clash!

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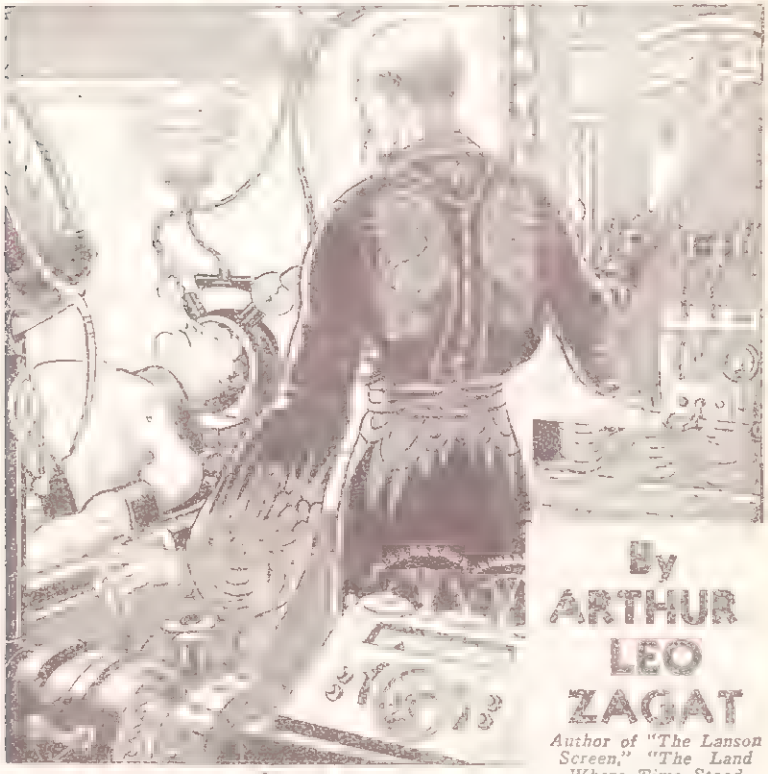
Under the yellow silk of his airman's tunic a small, hard lump was cold against his breast. It was the talisman of the Silver Eagle, the throbbing pulse in his temples reminded him, symbol of the gallant fellowship into whose fold he had been inducted at last. The secret that for months had lain prickling between him and his one close friend, Bart Thomas, was a secret no longer. Bart himself, darting from the distant Pacific, would be here in minutes now to receive from him the twisting handgrip of the order. In minutes—in seconds—*now*—

A siren howled across the field. A black speck notched the low sun's upper rim. "On time to the dot!" Atkins exclaimed. A white blur in the air was suddenly a silver, tear-drop shape caught in the high-reaching fingers of the landing trap's gaunt girders, a thousand feet above him. The gigantic beam surged down, pivoting on its huge hinge, perilously fast at first, then more and more slowly as

SILVER EAGLE



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Is Unleashed When Two Powers Clash!

its hydraulic shock-absorbers sapped the stratocar's incredible momentum.

Atkins dashed for the spot where the duraluminum-skinned, man-carrying projectile would ground to end Thomas' half-hour flight from 'Frisco Skyport.

A knot of brown-garbed mechanics clotted around the tiny car. Their wrenches clanged against the bolt-heads that had clamped tight the hatch cover against the airlessness of upper space. Twirling metal rasped against metal. The shining, oval door swung back. With eager impatience Atkins shoved past the mechanics, thrust head and shoulders into the aperture.

"Happy landing, old sock," he shouted. "Welcome to—"

The greeting froze on his lips. The tiny cubicle was unoccupied; was starkly, staringly vacant. In the heatless light of the ceiling tube the teleview screen mirrored the Skyport tarmac, glimmered from the glossy leather of the cushion on which Thomas should have lain outstretched. But Thomas wasn't there—

Atkins' skin was a tight, prickling sheath for his body. The thing was grotesquely, weirdly impossible! Impossible for his chum to have got out of the stratocar unless someone had unbolted the hatch from outside. Impossible for it to have landed somewhere so that that might have been done. To have arrived on the dot of its schedule the stratocar must never have relented from the uttermost limit of its speed. Time lost in any halt could not have been made up.

Impossible for there to have been any halt; the device was propelled by the blast of an electrostatic catapult at its starting point and had no power of its own. Once stopped it could not have taken up its flight again. And it had come straight as an arrow to the landing-trap's hooks at which 'Frisco had aimed it.

A fleck of white on the cushion caught Atkins' eye. He reached in, snatched it up. It was a bit of paper, and on it—

"Mr. Atkins," a peremptory voice battered at his giddy brain. "Conceal that and bring it to me at once."

The airman thrust the scrap into his pocket, whirled. The groundmen were crowding in around him, their swart countenances curious, but it was evident that none of them had spoken. Then he recalled the tiny receiver clamped against the bone behind his ear, and he knew whence the summons had come.

"This device hasn't been perfected yet," the grey man in the hidden room had said, "but within the limits of the field I can speak to you through it secretly and at will." There had been a view-screen before him, too, whose cosmic-ray eye could scan anything within fifty miles.

"Close it up," Don Atkins snapped, "and say nothing to anybody." Then he was running across the long, level tarmac, was dashing up the broad steps of Flight Headquarters Building, was hurrying through the interminable maze of corridors within.

The chaos within his skull took on a pattern as the amazing revelations of his initiation came back to him. The nation dreamed itself at peace with all the world. The Asafrican Alliance, Americans fatuously thought, having driven out the white races from the continents they had so long dominated, wanted nothing but to be left alone.

THEY reckoned without the driving ambition of Hung-Chen, the new Genghis Khan, who had forged an irresistible war machine behind the inscrutable mask of the East and awaited the auspicious moment to launch it against the Occident and the Americas. If he could not be stopped, war, rapine, slaughter, must inevitably destroy the Golden Age to which civilization had at last attained.

But here was the wall-panel, in a guarded corridor, whose curious quality he had been taught less than an hour before. Atkins halted, glanced cautiously left and right. He was unobserved. He bent to get his lips close against a certain whorl in the blue tracings with which the marble was figured, whispered a password. A whirring sound, seeming to come

from the very stone itself, told him that the impact of his voice had set in motion the sound-lock within. The apparently solid marble slid open and the airman went through.

The wall thudded shut behind him. In the windowless room he entered a short, grave-faced man, mouse-like in grey silk, looked up from his desk.

"Let me see what you found," he said without preamble.

Atkins fumbled in his pocket with shaking fingers, pushed the paper across the desk to the chief of the Silver Eagle. The red lines on it leered at him again, the ominous design that had pronged him with knowledge of the catastrophe that had overtaken Thomas. A deftly drawn dragon was coiled around the orb of Earth, one taloned claw sprawling triumphantly to obliterate the double triangles of the Americas.

The chief's grey face was almost expressionless as he touched the thing with a fingertip, but under his pale, inscrutable eyes little muscles twitched uncontrollably.

"The token of Hung-Chen," he said. "Like him to let us know that he's defeated our last device against his spies."

"What does it mean?" Atkins groaned, mental agony making him forget rank for the moment. "What does it mean?"

The other's tones were very calm—only the vaguest flatting betrayed the despair that must be closing in on him like a pall.

"It means that the key to the gaps in the West Coast electro-barrage is in his hands, the only thing he needed to enable him to strike. Thomas was bringing the plan to Army Headquarters, and he's got Thomas."

"But—but you said that the Silver Eagle memorizes all its messages. You said that Hung-Chen's spies had tapped every means of secret communication we've had and that's why the Sliver Eagle was organized—"

"Correct. We thought that a band of glorified couriers, shot across the continent at a speed greater than any yet known, would circumvent him. But we've failed. This lets us know that we have failed. They will get it out of Thomas—"

"No!" Atkins' fist pounded down on the desk. "Bart will never tell. He'll die before he tells."

"He won't die until they know. They'll strip his brain—" The chief broke off. "But that may take time. If we can find him before—" He ripped a long tape from a machine on his desk. A straight purple line traced on it wavered at a single point. "Look here. This deflection in the flight-graph shows that an extra amount of power was being absorbed between three minutes, twelve seconds out of 'Frisco and seven minutes, forty-six seconds after the start. I noticed it and thought that the projectile had swerved slightly from its course, was taking additional energy to straighten it out. But it occurs to me—"

"What, sir?" Atkins demanded, excitedly. "What?"

"That something may have come into the field, there between three hundred and twenty and seven hundred and seventy miles from the Pacific, on the great circle course. We might look that region over."

"I'm going, sir!"

Grey eyes stabbed keenly at the trembling airman.

"You're new, Atkins. I don't know—"

"Bart Thomas is my friend, Chief. More than a brother—"

"Very well," the grey man made his decision. "You may go. And God help you if you are caught. Listen—"

CHAPTER II

The Kappa-Ray

A GREEN light from Traffic Control flashed the "all clear" signal and Atkins thrust his throttle home. His gyrocopter leaped straight up from the fields, shot up through the night past the successive glows of the level markers. The red of the lumbering freighter-lane, the yellow of the local-flight zone, the cerulean blue of the five-thousand-foot level in

which the great transoceanic liners plied cometlike; they surged past in his view-screen, dropped below.

Sunburst came to him from over the bulge of the rounding terrain as his 'ceptor staggered logily. Its roaring vanes could no longer find any support in the near vacuum of the stratosphere. Atkins twisted the controls.

The lifting-vanes collapsed into their slotted grooves. The flyer was a sleek silver fish from whose tail the crimson flame of rocket gases fanned out. It darted westward, silent and swift as a bat out of hell.

Atkins throttled down, reluctant but obedient to the chief's instructions. He must not overtake the sun; darkness would be his best aid. Two red spots burned bright on his cheeks and secret fires flickered in his glowing eyes.

"I'm coming, old man," he muttered between his teeth. "I'm coming, Bart. Stick to it. Don't give in. Don't tell them—"

Endlessly blurred Earth streaked underneath him, endlessly the red position dot drifted with nerve-shredding slowness across the map framed at the flyer's elbow. He shut off the feed, unfolded once more the gyro-vanes. He drifted down through the darkness, silent as a cloud in a foggy night as invisible. A rugged mountainside, forest-cloaked, swam up into dim view.

Atkins checked the descent, hovered. A twist of his wrist, and the beam of his kappa-ray projector was searching the serried carpet of the trees. To the unaided eye that beam was utterly imperceptible, but on the specially treated screen at which the airman peered avidly a flickering disc cut through imaged foliage, through dark underbrush. To the kappa-ray all organic matter is transparent; only earth, stone, or metal can reflect it and become visible.

Minutes dragged. Bare ground, only bare ground, netted by branching streamlets. Then—what was that?

Atkins held the ray steady, quivering with bowstring tenseness. An irregular cube of stone showed mistily. A house! A human habitation in the wilderness! His heart bumped crazily against his ribs. But—wait a minute—it might be a Ranger station, a depot of the men who patrolled this primeval forest that was preserved as a national park. Beyond the house a metal *something*, huge, curiously formed, bulked vaguely.

Atkins' pulse leaped. He had found that which he sought. Thomas' captors thought themselves well hidden beneath the leafy screen. Evidently the kappa-ray was one secret that had been successfully kept from them.

Lower still Don Atkins dropped, until he was a bare hundred feet above the treetops. Too bad his search beam could not reveal human forms. He dared not send the map coördinates of this place by radio. He would be overheard, the gang would be warned and escape. But at full power it would take him seven minutes to reach 'Frisco Skyport. Then a hundred pursuit rockets would leap into the air. In minutes the mountain could be surrounded by well-armed men. He reached for the throttle.

The sea of foliage, almost black in the long evening shadows, glowed suddenly into green flame. Just above the strange building an orange pinpoint leaped into existence. An inverted cone of radiance soared lightning-swift from that focal point. Instantly the 'copter was bathed in the flare. Intolerable heat struck at Atkins. The steel walls about him flamed cherry-red. He was frying in the torrid blast.

Already his senses were leaving him—with despairing instinct he thrust at the release lever of the emergency hatch beneath his seat—no time to snatch at the parachute cone. He was falling, falling—

ATKINS lifted slowly back to consciousness. His body was seared with pain. An iron band constricted his chest and his blood was salty warm on his lips. A black silence enveloped him, broken by vague rustlings and the sound of trickling water. His dazed eyes adjusted themselves

to the dimness, and he saw twisted tree branches, moonlight sifting through leaves all about him. He was lying across a sturdy, gnarled bough. Above him he could make out broken branches, a funneled path torn through thick interlacing foliage.

Slowly it dawned on him what occurred. Plunging down, he had struck the lofty crown of some forest giant. The smaller branches, the massed verdure at the top of the tree, had absorbed the force of his fall. This larger branch had caught and held him, had kept him from crashing through to the ground.

He had failed miserably. The realization wrenched a groan from him. Suddenly he tensed, clinging tightly to his bough, listening acutely. A voice sounded. Heavy bodies threshed through the underbrush. A yellow glow flickered among the trees below, and was gone. It came again, held steady as it grew brighter. Two bulking shadows appeared, forcing through the thick growth. The dim back-throw of a lantern beat against the dull green of a Ranger's uniform, familiar to Atkins from hunting and fishing expeditions in these very woods.

This was luck! Their post could not be far off, with its radio-phone. He'd chance a coded message to the chief. His throat tightened to a cautious call—

The lantern-bearer stumbled, ripped out an oath. It was not in English! His light found his face. High cheekbones, thick lips, narrow, slanted eyes. They were Orientals! They were searching for something!

Of course—it was he for whom they were looking—his body. They wanted to make sure of his death, make sure that his crumpled form, lying perhaps near a trail, would not betray their hiding place.

The lantern glow flashed dartingly along the ground, into the treetops. Atkins tried to make himself a part of the limb. Rough bark rasped a deep wound in his palm. He flinched uncontrollably, lost his grip. He was slipping, was falling . . . A desperate tightening of his gripping knees, a flexing of his aching arm muscles, stopped the disastrous fall. But the leaves still rustled with his movements.

A sharp challenge ripped the forest silence. A tube in the yellow hand of one of the searchers spurted blue flame. It shot through the leaves and its heat, the acrid smoke of seared greenery, stung Atkins' nostrils. A second bolt came still nearer. Even if they missed him the light of those ray-tube flashes must reveal him to the hunters.

"Cut it out, Mingai," the other Asiatic's voice rasped in English. "It's nothing but a wildcat, or some other animal."

"I do not think so. I do not like that we have not found the body of the flyer."

"Forget it. He was burned up in the ray."

"The orange ray does not slay. It merely accelerates the electronic vibration of metallic atoms until the melting point is reached. But I forget, you would not understand. You are as stupid about scientific matters as the Americans among whom you have been raised. You even speak their barbarous tongue better than the language of your ancestors."

"You give me a pain. Come on, let's get back. We'll tell Fu-Kong to do his own dirty work."

"VERY brave, you are, when he cannot hear you," Mingai sneered. "But in his presence you cringe and are meek like the rest of us. No, friend Li-San, we do not return as yet."

"All right, if you're going to be that way. Let's look further."

"Not till I discover what there is in this tree." Hope died in Atkins' brain.

"Going to keep on raying till we're spotted by some snooping Ranger?"

"No, there is a better way." Mingai turned back to the tree. His cylinder again jetted its blue flame. It was continuous now—was boring across the trunk. Back and forth the steady yellow hand drew the disintegrating beam. The great bole quiv-

ered, started to sway. Atkins got his feet beneath him on the perch, leaped down.

His aim was true. His heavy boots struck square on Mingai's shoulder. He felt bone crack beneath the impact of his weight. Even as the man dropped the American jumped sideward, catlike, his lithe form twisting in mid-air so that he faced the other Oriental. He caught a fleeting glimpse of a startled countenance—then the saffron face was obliterated by the crashing thud of his fist. He whirled away, hurtled into the shadowed brush.

Thorned tendrils caught and tore at Atkins. A root tripped him, and he crashed headlong into a tree trunk. He thudded to the ground—lay there—his tortured lungs laboring—his outstretched hands plucking at the earthy loam.

From behind, Atkins heard a thin whistle, shrill almost above the range of human hearing. From far to his right another, responding. Evidently the men from whom he had escaped were signalling for aid. He struggled erect. He was unarmed, alone, bruised and battered, terribly fatigued. But he knew now that he could escape by working down the hill, to his left. In the other direction were desperate men, weapons at their ruthless command that could whiff him into eternity at will. He turned to the right.

CHAPTER III

The Pursuit Squadron

DON ATKINS crouched in the shelter of a bush. Before him the stone structure he had seen from the air loomed blackly. Over the clearing a rope network carried a camouflage of tree branches that his kappa-ray had pierced. He could hear a murmur of voices, but the sounds came from beyond or within the squat building.

On the side toward him there was silence, and nothing moved. The darkness of the wall he faced was relieved by a horizontal line, a thread of light, almost imperceptible. The American's eyes clung to it. Then he was crawling across the bare ground that lay between. Twenty feet of shelterless surface, flecked with the revealing light of the moon. Could he make it, unobserved?

Inch by crawling inch, every muscle, every nerve, taut with expectation of a sudden hail, of a blue flash that would sear him into nothingness, Atkins slid toward the beckoning line of light. After an eternity, he was in the solid shadow of the wall. He raised himself cautiously and found the place where the light shone through. It was the lower edge of a steel-shuttered window, just at the level of his eyes.

He could not see much of the room within, the aperture was a mere slit. But what he saw was enough! Just within range of his vision was a table-top, black, and glistening like glass. Fastened to its surface, leather straps cutting deep into the flesh of his arms and legs, was Thomas! His friend's stocky body was stark naked. In a cold lurid light that beat down, Atkins could see his knotted muscles writhe snakelike, the sweat of agony gleaming on his skin.

Thomas' face was deathly white, his clenched teeth were revealed by lips that curved away, his eyes were closed and his cheek muscles were quivering. His forehead, his hair, were covered by a metal helmet, from which wires curled away out of sight.

A low, mechanical hum rose steadily in pitch. Bart Thomas' form arched slowly up from the table, straining against its creaking bonds. Suddenly the hum stopped, and the twisted body slumped flaccidly, inertly, down. A yellow hand, slim, its long fingers ending in pointed nails, came into view, holding a small sponge to Thomas' nostrils. The prisoner quivered, his eyes opened, and Atkins' fists clenched as he read the despair that stared from them.

He heard a voice, suavely cruel.

"It is very painful, this searching of your brain. If you chose to talk you would save yourself much anguish."

Atkins' scalp was a tight cap for his skull as the bound man's eyelids

dropped, and lifted again. Even speech seemed too great an effort for him, but his lips moved. A hand was clamped over Atkins' mouth, a powerful arm wound around him from behind, pinning his own arms to his sides. He was lifted from the ground. He drove a desperate heel backward into a hard shin. Something crashed against the back of his head and he hung, dazed and barely conscious, in huge arms that carried his hundred and fifty pounds as though he were a child.

The room whirled dizzily about Don Atkins. He saw men, a television screen, a black tube that rose through the ceiling from some unknown device. He was carried through another door and a saffron-hued face, lengthened by a wisp of grey beard and drooping mustachios under a hawk nose, drifted hazily before him. Only the eyes were clear; black eyes, piercing behind their slanted lids.

Atkins was set down in a chair. Hands fumbled at him, passed a rope around him, binding him to his seat. He scarcely noted it, spellbound by those glittering eyes. His fogged brain cleared a bit and he saw a tall Oriental, imperturbable. There were banked tubes glowing behind him, and bright copper coils. To one side, a table, its black top glistening like glass. Thomas, strapped down, was looking at him with eyes in which incredulity and horror flared.

The tall Oriental spoke.

"Who is this, Na-Garri?"

FROM behind Don a huge black came in view. Dressed, like the others of the gang, in the olive-green of the Rangers, he was still redolent of the jungle. His skin was a deep, dull black that swallowed light. His bullet head sat queerly on wide shoulders from which arms thick as saplings hung loosely almost to his knees. His voice was a throaty rumble.

"I don't know, Lord Fu-Kong. But the electric-eye alarm he flash, and I find this one peeking in. So I bring him to you. Maybe he the one who we bring down from the plane, the one who jump on Mingai and Li-San."

The other nodded.

"Probably. He seems very persistent." To Atkins: "You display a great deal of interest in our proceedings. I hope you are satisfied with your present opportunity to observe them."

He reached out a clawlike hand and ripped away the front of the airman's shirt. He snatched at the token hanging there. The fine gold chain snapped, and he had it in his hand. A faint smile crossed the jaundiced mask of his face and he held the tiny bird out to the black. Not a half inch long it was, but exquisitely wrought. An eagle, poised as if in flight, it seemed almost alive.

"See, Na-Garri, this is another of the brood. They wear talismen about their necks, like your own tribesmen, to bring them good luck. But I fear the Dragon of Hung-Chen is too strong for their puny godlet." He turned back to the American. "I shall deal with you in a moment, when I have finished with your comrade. Watch closely, American, and I wish you joy of what you see."

Now he was talking to Thomas, and his voice was a crawling threat.

"Have you decided to answer my questions?"

"No!" Thomas' voice was a tortured whisper, but his lips closed tight and firm. Fear and despair drew haggard lines across his face.

Fu-Kong shrugged, stepped to the wall where a tall slate panel glittered with switch-points, gages, gleaming ebony wheels.

"Still stubborn. You will not believe me, then, that this searcher will delve deeper and deeper into the core of your brain till it wrenches the uttermost secrets of your ego from you. Yet it was an American who first proved that thought is an electric process, who first measured the tiny currents that flow along the nerves. Well, if you must have it—" His fingers closed on a lever just above binding posts to which the wires trailing from the helmet on Thomas' head trailed. "Now—"

"Fu-Kong. Fu-Kong," a shrill cry from the outer room stopped him.

"Another plane has appeared above." Atkins forced his head around. Mingai was in the doorway, his shoulder bandaged, his right arm in a sling.

"Well, why burst in on me like this?" Fu-Kong was imperturbable. "Send someone to dispose of the remains."

The other's face was a sickly green. "But it got away," he gasped.

"It got away?" The phrase was like the purr of an enraged cat.

"Yes. My broken arm—I had to use my left—I missed with the orange ray, and before I could aim again he was out of range." Mingai's voice trailed away in an apologetic murmur.

"You—" the other began, fury breaking through the stony mask of his face. But again there was an interruption. A sallow Hindu appeared.

"Master, the plane that escaped is signalling to 'Frisco Skyport, and their rocket squadron is taking off."

The chief had not failed them! He had sent a following plane that by great good luck had escaped the Asiatics' lethal ray. Atkins calculated hastily. In ten minutes now this nest would be surrounded, the spies captured, Thomas freed and his secret safe.

BUT Fu-Kong was snapping peremptory orders. Mingai and the Hindu had disappeared, Na-Garri was unstrapping Thomas, was carrying him out. The Oriental leader himself, ray-tube in hand, was unfastening the rope that bound Atkins.

"Get up and precede me." The spy gestured with his weapon. The American obeyed, staggering on limbs that were needling with returning blood. He was through the outer room, his captor close behind him; was in the open. Straight ahead loomed a monstrous metal shape. Egg-shaped it was, save for one end that was sliced off sharply, and there was an opening, man-high, in its side. Na-Garri was just vanishing within, with his burden. Atkins followed. Fu-Kong clanged shut the slide behind him.

A steel ladder mounted through a dim green light, curving over an inner shell. Atkins' head came through a trapdoor above, and he was in a low, long chamber. Then he was once more tightly bound. A rough shove from the black sent him sliding across the floor to thud against Thomas' trussed and naked form.

Li-San was just closing the trapdoor. Mingai, fear in his eyes, was thrusting up on a valve-handle that projected from a large vertical pipe in the wall. At the far end, before a large view-screen, the Hindu was seated, black discs of phone receivers clamped to his ears. Beside him Fu-Kong bent over a serried row of gages and levers atop a metal console. A large view-screen before him showed the forest-bordered clearing and the stone building that had been vacated in such haste.

Fu-Kong pushed at a lever, and the view-screen was a flare of flame. It cleared. Where the house had been was a gaping hole in the ground. The Oriental's hand moved again. The screen was a down-rushing blur. It cleared once more. Velvet-black, star-strewn, the night sky was about them, and the far-below forest was a dark, mysterious sea.

"Don, old man," the whispering voice in his ear was Thomas', "how on earth did you ever get into this mess?"

"I came to find you," Atkins said grimly. "And I did. How are you?"

"Pretty rocky. But I'll keep until Fu-Kong gets a chance to work on me again."

"I can't understand how he ever got hold of you. Your carrier came in right to the dot. What happened?"

"I was zipping along, watching the U. S. shoot past in the screen, when suddenly something flashed over me and dropped down in front."

"Shot over you! I thought the rocket-stratocars were the fastest things ever produced."

"So did I, until I saw this craft. I'll bet it can make three hundred miles a minute. It passed me as if I were standing still. At any rate, there it was, right ahead of me, and slowing. The blunt end was toward me, and I thought sure I was going

to crash into it. No way to swerve those carriers, you know. But just as I reached it, a hole opened and I sailed right inside."

"Good Lord! Then it's a—"

"A sort of flying trap. Damned ingenious, eh? I can figure out the rest of it now. You say the stratocar reached New York on time? That means they closed the stern and speeded up again till they were making just the rate I was. Afterward they went faster once more, got clear of my boat and dropped away. They had just picked me out of it on the fly.

"ALL I knew at the time was that my hatch opened, and the big black was pointing a ray-gun at me. He told me to get out, and I got. We were in an air-lock, and there was a rope ladder hanging down. I climbed it and found myself in this room. Fu-Kong was here, and the Hindu. Then in a little while we were down in the clearing, where the others were waiting. After that my troubles really began— Look at the screen!" he said sharply.

Atkins twisted himself back to his original position. In the distance a score of scarlet lights made a dancing crescent on the view-screen. They rose and fell, but came on steadily. He thrilled at the sight. These were the army flyers from 'Frisco Skyport. No mistaking that formation.

Those far-spreading wings would sweep around as the center checked, and the Asafrican craft would be caught in an enfilading fire. Fu-Kong and his gang were doomed! Peculiar how calmly they were taking it. Eastern fatalism, he supposed.

Eastern fatalism, hell! Memory fanged him! Thomas had just told of the incredible speed at Fu-Kong's command. The spy master was not trapped, far from it. He could get away at will. Why was he hanging here motionless, watching those oncoming flyers, a sardonic smile tinging his yellow face?

Nearer and nearer the lights came. The dim shapes of the army rocket-planes showed, phantomlike. The central ship dipped, minutely, and the long line began to expand. The motley crew of the spy ship clustered behind their leader in the bow.

"Near enough." Fu-Kong's voice rang like a sentence of doom. A long pencil of orange light shot out from his vessel, wavered, impinged on the nearest plane. The flyer flared red, then dazzling white, at the tip of the beam. Then—there was nothing there. The death ray moved on to the next in line.

All along that far-flung line a coruscation of green swept, as the indomitable fighters shot out their futile answer. Lethal enough, those rays, but their range was far short. Another plane was caught in the orange beam and vanished! Another! But the squadron came on, their mile-long fire-tails lashing them through the night.

If one, only one, could get near enough to spear the Asafrican craft with its beam! Taking that one desperate chance the birdmen rushed into the face of destruction, never faltering, never wavering, as ship by ship the orange scythe reaped its deadly harvest. Only ten ships were left of the score that had first appeared, only nine—and still the green rays were miles short of their mark.

Minutes passed that were long as eternity. Eight of the intrepid attackers remained, then seven. But now the stabbing darts of emerald death were almost reaching their mark. A little more—only a little more. Suddenly the floor vibrated and Atkins heard the muted thunder of the craft's rocket blasts. The spy ship was moving at last.

Fu-Kong would escape—that was unavoidable. The terrific speed of his strange vessel could never be matched by the combination plane-and-rocket-craft of the Americans. But at least the pitiful handful remaining would escape the holocaust. Seeing the futility of their courageous attempt they would return to their base, perhaps effectuate plans for a countrywide encircling movement that might in the long run bring the yellow ship down. No—Atkins' mouth twisted in a

soundless oath—the Oriental had no intention of permitting that.

The distance between the spy-craft and the nearest attacker did not increase. The Asiatic was keeping just beyond the range of the green rays—was taking toll on the American aviators with false hope while the merciless orange beam flared out, mowing the velvet night with destruction.

CHAPTER IV

The Dragon of Hung-Chen

OUT of the twenty flyers who had soared to the attack a bare six still charged on. They were insane! They couldn't win—

But couldn't they? Atkins stifled a gasp, was taut with sudden hope. Five of the squadron's remnant had startlingly changed their tactics. They were zigzagging, were darting left and right, up and down, in what seemed a last panicky attempt to evade the Asiatic's ray.

Senseless, it seemed—but there was one ship that had left the group. Its green ray was doused, only the pinpoint red of its tail-flame betrayed its course to Atkins. He flung out his soul in a wordless prayer that neither Fu-Kong nor his aides would notice that stealthy climb.

Steadily the squadron leader mounted till the scarlet dot that marked him out was touching the upper margin of the view-screen. Ten thousand feet below, his comrades flitted about in their macabre dance, cheating the orange death again and again by breathless inches. The attention of the enemy crew was concentrated on those darting shapes, on their darting, ineffective rays.

Atkins' eyes flicked back to the lone flyer. He saw the sudden crimson burst, saw the downward curve of its flaring wake as a terrific swoop began, saw the green ray dart out ahead, spearhead of the diving hawk. Down and down and down, adding the pull of Earth to his own driving blasts, the avenger plunged in one last, magnificent effort to catch the destroyer unaware; zipping faster and faster until even in that tenuous air the steel plane-body glowed dull red with the friction of its unleashed speed.

A minute's grace—sixty unobserved seconds of that lightning slant—and it would snip the yellow menace from the skies.

"Look—Fu-Kong—look!" It was Mingai who yelped the alarm. The orange ray swept up. *Jammed.* By luck—by the luck with which the gods award the greatly daring—the down-darting American had found the one vulnerable angle of the spy ship. Green flame licked out hungrily, but Fu-Kong's hand was lightquick in its flash to the throttle lever. His ship lurched—jerked aside in the last possible moment of safety.

The American was under, now, right under the spy-craft. But the dragon ship was driving ahead. In an eye-blink Fu-Kong would be able to bring his death ray to bear on the daring flyer! Don Atkins flung heavily across the floor by the sudden jerk, saw, not quite three feet above him, a gleaming copper handle—the valve at which Mingai had twisted just before the take-off.

Legs lashed, arms bound, sweat pouring from his lined brow, eyes bulging from their sockets, by sheer power of stomach and trunk muscles alone he swung his torso from the floor. His head came level with that handle. His teeth clamped around it. Corded sinews stood out on his neck as he drove the valve lever down. Suddenly he was snatched loose by a lurch of the craft, and his preposterously twisted body crashed down.

But that very lurch told him of success! It *was* the main fuel-valve! He had cut off the rocket-tube's supply! In an instant, now, the vessel would be caught in the ray-beam of the pilot below. Atkins tensed to meet the green flash that would mean oblivion for Fu-Kong and his myrmidons—and for Bart Thomas and himself.

It never came! A shrill, high-pitched oath, footsteps running toward him, pulled open his eyes. Fu-Kong was bending over him, face livid with wrath, ray-gun rising for the

coup de grâce. Behind him Li-San came up, a strange glow between his slant lids. Atkins' eyes flicked past the couple. In this final moment of life he must know what had happened, why his intended sacrifice had failed.

A BLUE electric veil, shimmering and sparking in a cerulean network of tiny lightnings, curved all across the view-screen. Beyond it the misty shapes of the attacking aircraft spat their green beams. The emerald death rays spattered harmlessly on the ionic curtain, and were quenched. From within, the orange ray thrust futilely against the hollow, defensive sphere of force.

This Atkins saw in a single, flashing glance. Then he was staring up at the enraged Oriental, was waiting in a timeless void for the blue spurt that would sear thought and consciousness and life itself from his despairing brain.

"Wait, Master!" Li-San snatched at Fu-Kong's hand, swerved it aside from its aim. "Wait! That way is too easy for the pale-skinned dog. Let me and Mingai take care of him. We have a debt to pay for what he did to us in the wood!"

In the other's slitted eyes a glint of satisfaction showed.

"I had my doubts of you, Li-San. Twice you have shown deplorable softness in your tasks. This I like much better. You may have your wish. But take him below—I have much to do and do not wish to be disturbed."

Atkins' skin crawled. Death he could face calmly—but that which the fanatic gleam in Li-San's saffron mask promised made him a coward.

"Fu-Kong," he croaked, barely able to force the words through his constricted throat. "Don't give me to him! Kill me yourself. That would be clean and honest." But the Oriental was walking away.

They took him down through the trapdoor, carried him down, flung him heavily on the plates in the narrow space between the entrance hatch and the curving inner shell.

"Untie him, Mingai." There was an undercurrent of eager excitement in Li-San's tones. Even in the face of what was to come, Atkins wondered at the gratuitous cruelty of the Oriental mind. Mingai stooped to him, fumbled at his lashings. As they fell away, the American leaped up to make a fight of it. Hopeless, of course, Li-San had his ray-gun poised for action. Better to go out that way than to suffer the planned revenge of the sadistic duo. Now—

"Hands up, Mingai! Quick!" The virulent threat in Li-San's voice made the low command seem a crashing shout. Mingai straightened. His arms flew above a saffron face from which amazement and horror had stripped its habitual mask. Li-San was braced on spread feet, his ray-gun thrust before him. His countenance was alight with a strange flame, and his eyes snapped menace. "One whimper from you and I flash!"

There was an instant of stunned silence. Then Li-San spoke again.

"Here, you American! Grab those ropes. Tie him up and gag him. Quick, man!"

Dazed by the sudden turn, Atkins obeyed. What lay behind this sudden act on the Asiatic's part? Had he suffered a sudden change of heart— He recalled, in the wood, Li-San trying to argue Mingai out of his determination to search the tree in which he was hiding. He recalled Li-San's inter-

vention with Fu-Kong a moment ago that had certainly saved his life—

His task was finished—Mingai tightly bound, and a strip from his own tunic jammed none too gently into his mouth. Before Atkins could voice his questions there was a sudden dull roar which shook the vessel.

"He's getting under way again," Li-San barked. "We've no time to lose." He plucked Mingai's ray-gun from his belt, thrust it into the American's hand. "Come on!" He was flitting silently up the ladder, Atkins, perforce, after him.

THEY were just beneath the rivet-studded trap. Li-San lifted the lid, slowly, till a narrow crack of brighter light showed along its edge. Atkins managed to crush in alongside of him on the narrow step, and together they peered through the slit.

The blue defensive sphere was gone and the attacking ships had vanished. But something else showed in the sky; a long, slim, torpedolike object that sped straight for the spy ship. From its nose a white light flickered in a rapid series of dots and dashes. Atkins felt an electric quiver of tenseness run through the yellow man against whose body his own was crushed.

A strange pattern formed itself in the American's mind as he crouched there, waiting for he know not what. That oncoming shape had the very form of the rocket-stratocars used by the Silver Eagle. Yet this was no messenger, waylaid as Thomas had been. He had signalled to Fu-Kong. Why had the spy-craft waited here, chancing the fight with the American planes, when it might have been away and gone with only the slightest effort? What was it that glowed from Li-San's eyes, that shook him with an ague of eagerness?

Nearer came the speeding rocket, and nearer still, until it passed out of sight at the lower edge of the view-screen. The larger craft lurched, and lurched again. Fu-Kong thrust at his levers, there was a hiss of rushing air. Then a buzzer shrilled.

"He's picking up the stratocar," Li-San whispered. "Get ready."

"All right, Na-Garri," Fu-Kong called. "The air in the entrance lock is at normal pressure. Open up."

The black bent to a ring in the center of the floor, and pulled on it. A round manhole lid came away. A head appeared, and a squat, broad body followed it.

Straight black hair, tiny black eyes almost hidden by high cheekbones, broad flat nose over thick, red lips—this was a Tatar face, a throwback to the Mongol hordes that in the Thirteenth Century ruled half the then-known world by force of arms. From that stocky figure emanated an aura of power, of dominance. Unbounded ambition, lust for power, savage cruelty, were stamped on the round, flaccid countenance.

Li-San clutched Atkins' arm, his fingers sinking into the flesh.

"It's Hung-Chen! Come himself to receive Fu-Kong's reports. Tomorrow the attack." Atkins understood why the spymaster had been unable to flee. He had had to wait here for his chief—no way to change the course of the stratocar once it had started.

The huge black bowed low. The Hindu joined him in humble obeisance. The haughty Fu-Kong came away from his controls, abject servility in every line of his tall body. The Mongol spoke sharply, and there was a rapid exchange in a shrill, high-piping tongue.

"Now!" The snapped word from Li-San galvanized Atkins into action. He thrust upon the hatch, leaped. *Clang!* The yellow men swung to the sound of the falling trapdoor, saw two apparitions spring into view, ray-guns at the ready.

"Throw up your hands! Up with them!" Atkins' shout drove through the chamber. "Up, or we wipe you out!" Li-San's eyes were blazing pits of wrath. Na-Garri's simian arms went ceilingward, the Hindu's, Hung-Chen's. Fu-Kong ripped out a virulent, "Traitor!" at Li-San and snatched at the cylinder in his belt.

"S-s-s-s-s!" Blue lightning hissed from Atkins' weapon. A blackened

corpse crumpled slowly to the floor. "Any more?" His voice was thick with fury. But the remaining three stood statuelike. "We surrender," came the voice of the captured overlord. "Don't flash."

THEIR captives tightly bound, the two—Don Atkins, the American, and Li-San, the Chinese, turned to one another. Atkins' hand went out to the other, then hesitated—drew back. Li-San straightened.

"No," he answered the question in the American's eyes, "I am not a traitor to my own people. Here," his hand tapped his own breast, "there are two loyalties—one to the race among whom I was born, among whom I have lived my life and have my friends, the other to the race of my ancestors. War between them was unthinkable to me." He glanced down at Hung-Chen, bound and glowering, looked up again, a wistful smile hovering on his saffron face. "Now there will be no war. I'm sorry I couldn't save the squadron of planes. I had to wait until *he* arrived, you see. And it was too dangerous before to attempt to capture the ship."

"You joined their rotten gang, risked death and worse, to defeat their plans—to save your own people, and mine, from the horrors of war!" Atkins exclaimed. "By God, Li-San, you are a man!"

Yellow hand and white met and clasped.

"Hey, you fellows," came Bart Thomas' weak voice from the floor. "When you get time you might take three or four of these ropes off me and get me something to wear. You'll get all the handshaking you want when we get back to New York."

WHAT IS YOUR SCIENCE KNOWLEDGE?

Test Yourself by This Questionnaire

1—Is Sirius' companion a dark star?
2—Who says that the force of gravity is simply a curvature of space?
3—What is an ether-strain?
4—What are harmonic waves?
5—*What is a Tyrannosaurus rex?*
6—What is the atomic weight of oxygen?
7—Would there be much barometric pressure upon a planet which has a thin atmosphere?
8—Name a science in which triangulation methods of calculating are used.

(A Guide to the Answers Will Be Found on Page 128)

SOLVED!
To solve the mystery of good shaves, get on the trail of Star Blades. Made since 1880 by the inventors of the original safety razor, Star Single-edge Blades are keen, long-lasting, uniform. Star Blade Division, Brooklyn, N. Y.
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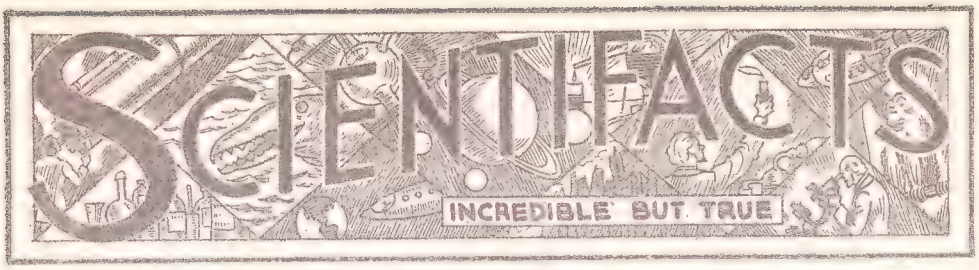
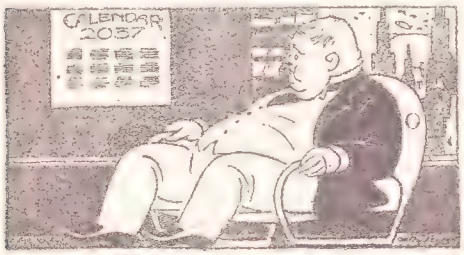


A BRAND-NEW, FASCINATING FEATURE

By J. B. WALTER

SHALL WE EAT IN 2037?

THERE will be five billion people in the world by 2037, according to scientific estimates recently compiled, if the present rate of increase keeps up. This is in spite of wars,



disasters and epidemics. There are only thirteen billion acres of soil on the surface of this planet that will grow food. One person consumes the produce of about two and one-half acres, so five billion is about the limit.

Will we have to go to another planet in order to eat? Or will science learn how to cultivate the waste North Arctic spaces, or produce synthetic food?

HOW THE VELOCITY OF LIGHT WAS DETERMINED

LIGHT travels approximately 186,300 miles a second—and here's how Professor A. Michelson first proved it. A beam of light was reflected from one of the sides of a revolving, twelve-sided block, each side of which was a mirror itself. This made successive flashes of light. These rays were sent a long distance, about a mile, and were reflected back again from a mirror.

The distance the twelve-sided, or faceted mirror moved in the time it took the flash to go to the other mirror and return was the basis for figuring the speed of light.

BACTERIA WITHIN METEOR

THERE is proof of the possibility of life upon other planets! Professor Charles L. Lipman, of the University of California, claims to have recently discovered living microscopic organisms in meteorites which have flashed across the ether to Earth, from other planets. The interior of the meteorite, the professor explained, remained cool while the outside burst into flaming fragments.

BLUE EYES ARE NOT BLUE!

EYES that are grey, brown, or black are so colored because the iris contains a pigment of that tint. In the case of blue eyes, however, the outer layer of the iris is colorless and transparent. The inner layer is exposed. This is white, and reflects and scatters the light which strikes it. The blue rays of light, being the shortest, are scattered most readily. In consequence the iris, which is really white, appears blue. The blueness of eyes is similar to that of the sky, the latter also being caused by the scattering of blue light, by the upper atmosphere.

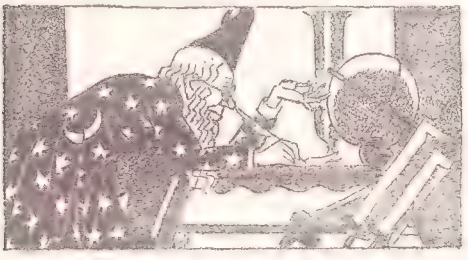
CRATERS OF THE MOON

ASTRONOMERS still cannot furnish a positive reason for the existence of the craters of the moon.

Cyclopean bubbles bursting on the moon's once viscid surface, later solidifying into crater rings? Bombardment by colossal meteoric missles from the sky aeons ago when Earth was rocked by volcanic tumults of her early geologic birth? A violent internal explosion, like our own volcanic eruptions? These are the three most popular theories. The real cause man will never know.

A MATHEMATICAL MISTAKE ALTERED THE SCIENCE OF ELECTRICITY

A LARGE group of eminent scientists and engineers once made an error in mathematics which altered the whole science of electricity! In



1893 a congress of engineers and physicists from all over the world convened for the purpose of establishing definitely and permanently the sizes of the various electrical units (ohm, farad, etc.) for there was much confusion in this matter.

It was finally decided to make the abampere (the absolute or physicists' unit of current) exactly equivalent to the ampere (the practical or engineers' unit of current). On this basis the relative magnitudes of the other electrical units in each of the two systems (absolute and practical) were to be determined.

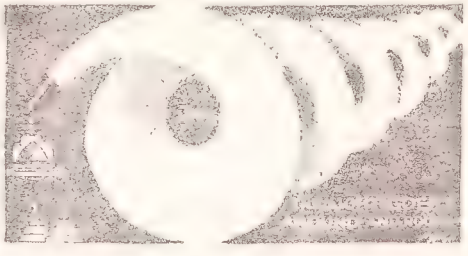
Through some undetected error in arithmetic, the abampere was made equal to one-tenth of an ampere and not equal to a whole ampere as the congress had decided. As a result of this error the relative values of all the electrical systems in the two systems are different from what the congress set out to make them. Whereas the scientists wished to make an abcoulomb equal a coulomb, the latter is instead ten times the former. And so on and on. This error, which was never corrected, thus altered the entire science of electricity.

A STRANGE NUMBER

THE number 108 seems to have some special significance in our Solar System. The diameter of the sun is 108 times that of the earth. The distance from our planet to the sun is 108 times the latter's diameter. And the distance from Earth to the moon is 108 times the diameter of Luna!

"CURVED" LIGHT

SCIENCE can now bend light. Previously, except for the great space-curvatures which Relativists say surround stars and suns, no conceivable agency or material could actually cause light to travel in a curve. This feat was accompished by Dr. Harry Robert Dittmar, of the Du Pont Research Laboratories with the aid of "Pontalite," a new plastic known chemically as methyl methacrylate polymer. Du Pont scientists recently demonstrated that a pretzel-shaped length of Pontalite could conduct light, carry it around bends as a cable carries electricity. A flashlight



was held close to one end of the twisted plastic tube. The other end of the tube shone brightly.

The reason why Pontalite bends light is because of the crystalline structure of the material, which refracts the light in a series of very straight lines joined at slight angles, like bar links in a watch chain, so that the light stays inside the conductor until it reaches the end.

DOWN on the FARM

In the Hygienic Age of the Future, Harold Faddley, Aged 156, Commits a Crime Supreme!

By SIMPSON STOKES

THE hard, irregular shape of the self-adjusting Nibbler moved over the grassland like a gigantic mechanical cow, only it had caterpiller traction bands instead of legs. Its thirty-two jaws, working alternately in echelons of eight, opened . . . shut . . . nipped . . . tore . . . rhythmically. Professor Obinson had well remembered the importance of achieving conditions as identical as possible with those produced by the teeth and jaw action of herbivorous animals before the fodder went into the Metabolisers.

Farmer Geary watched the Nibbler at work. He saw beyond it the vast three-storied acreages of his Multiple-Crop "Flats," incongruously tilted on the side of Durdleberry Slopes in the distance. The bizarre shadow of the combined Wind-Suncatcher, like a spray of tulips mounted fanwise on a rotating mast, slanted across the meadow.

"This is good," said Geary, rubbing his hands. "This is fine."

He had been reading through his accountant's estimate of balance, and saw every prospect of being nearly ten per cent up on the previous half year. His Soya by-products, his fibrous residues and his Metaboliser

It looked like a gigantic mechanical cow.

fodder all showed a most healthy increase. Indeed, the only slight setback had been in the third-tier Chlorophyl crops from the Flats, and this had been due solely to a mechanic's unaccountable error in setting the thermostats. Well—he would settle this mechanic, Mason it was. He had already appealed to the Commission, claiming for the loss to be made good. This would probably reduce Mason's superannuation prospects to those of the Third Class unless he made good in the next year or two by earning Maxima Efficiency Bonuses.

So Farmer Geary had every reason to feel pleased with himself as he returned to the gleaming steel-and-glass farmhouse.

He found the Portrals there, and old Faddley and his wife, and young Tim, on vacation from the University of Agriculture. They had been talking about old times and new, as people will in all ages.

"The greatest blessing of all"—Mrs. Portral was saying, as Farmer Geary stepped in from the lawn—"well, it's hard to say. I remember when I was a girl, my mother used to tell me about how she used to mix foods together and put them into pots and ovens instead of just heating the carton. She said that it was a full day's work doing all that unnecessary mixing and cooking, and cleaning plates and dishes afterward. Fancy having to use plates and dishes over and over again!"

"Couldn't have been really hygienic," agreed Tim. "But then the twenty-first century was never much in advance of the tenth in the business of feeding."

"I think that the greatest blessing has been the abolition of edible animals," said Farmer Geary, adjusting a recliner and settling himself at the most comfortable angles. "Imagine the horrible animal smells and the dirt; the sweating skins and sali-

"Don't be coarse, Elbert," Mrs. vating mouths; the flies."
Geary said.

"Well, I've been to outlandish countries where they still have such awful habits, haven't I? It nearly made me sick to see the way they depended on vegetation being transmuted through the filthy stomachs of animals, for meat and milk. Blessings? I'll give my unhesitating vote to synthetic Metabolising Plant every time."

"Harold here remembers cows and sheep in this country," said Mrs. Faddley. "Don't you, Harold?"—and Geary shuddered.

"Sure. When I was a boy near a hundred and thirty year ago, I worked on one of the last of the old farms," agreed old Faddley. "But I was used to it, you see, and I loved the smells of the farmyard and the lowing of the cows, and the simple Nature in it all. That's why I'm in the egg-layers' side of the business today. To handle live birds an' to take interest in 'em reminds me of old times, you see."

"They even used to eat chickens as meat in those days, didn't they, Mr. Faddley?" This was from Tim.

"O' course they did, Tim. But they wasn't the featherless birds we uses today, you see. They had plump flesh and lots of feathers—fair bunches of 'em like you can see at the zoo. And they used to run about the yard an' scratch in the ground, an' peck an' cluck, an' squat in the dust like anything. 'Twas music to me—"

"PEOPLE killed them," Mrs. Portral interrupted hastily. "Then they plucked all the nasty, insanitary feathers off, and then they actually burnt them in ovens, lubricating them with animal fat and pig's meat while they burnt. I remember my mother telling me."

"Talk about cannibalism!" said Portral.

"The chief business of life today," said Geary. "The whole business, I say, consists of, and should consist of, nothing but the efficient production and distribution of foodstuffs and manufactures and the vigilant observance of hygiene and sanitation."

"Control, of course, sir—education—" Tim suggested bashfully.

"We can leave that to those responsible." Tim quailed before Geary's truculent eye. "I said the chief busi-

ness of life, my boy."

Old Faddley, in the arc of the wall near the humidor switch, wished that some other topic of conversation had been chosen. The very mention of old-style farms brought with it a strange nostalgia. While he had been speaking of the smells and sounds of his boyhood days on the land, they came back to him with such vividness that he thereafter drifted into a day dream. He fancied himself standing by a gate watching the cows coming through from the churned-up pathway. There were no sounds of mechanism or whirr of wheels; not even the distant chug-chug of Wind-Suncatcher. The air was calm—warm with peacefulness—as the cows came sedately through, whisking their tails; one after the other pausing for an instant to swing their heads sideward and favor Faddley with meaningless stares.

And the field in which they grazed! The surface was delightfully uneven; there were tufts and tussocks of grass—not the soulless smoothness of modern meadows ready for great, lumbering, clattering Nibblers to work on. How well he remembered! In the far corner, near where the cabbages started, were the hay ricks, and what a pleasing aroma came from *them*, especially when the sun came smiling after a shower! Pigs and fowls and big farm horses—and ducks.

He never tired of watching the family of ducks, waddling comically after the mother to the dear, dirty pond behind the stables. Dear, oh, dear! 'Twas well over a century ago. There's no smell like the farmyard mixture, he thought, and there's no animal like a cow.

Nevertheless, on emerging from his reverie, he felt that he had been betrayed by his unguarded enthusiasm, into a social indiscretion. He noticed a difference in Geary's manner at once.

Mrs. Portral, also, had looked at him with an expression of distaste. There was that sort of aloofness evident in the room which might have followed the utterance of a blasphemy.

From that moment Faddley ceased to visit the Gearys. He shrank into his shell. Beyond an occasional business trip by air to Canada or to Bermuda, he seldom stirred from his egg farm. He even refused his usual attendance as a delegate at the Egg Union week-end meeting in Rio de Janeiro.

"Sad about the old man," was the general verdict. "Getting into the sere and yellow at last. Never was truly with the times, you know. Of course he has to be up-to-date with production methods because of the Law—but at heart he's a reactionary."

People shook their heads and went about their business leaving old Faddley to his egg hatcheries. Such a progressive age, with so many diversions to occupy what used to be known as "leisure," could easily forget a man who properly belonged to the past.

But Faddley was destined to emerge from obscurity at last, and to dart across the sky of the world's news like a meteor of sensational dimensions. There was scarcely a civilized home in the five continents in which the "Faddley Case" was not a topic of conversation, from the moment of its first flashing on their visi-screens—one of the biggest news-scoops in the history of the Nord-Europe-America Transmission!

FARMER GEARY had authentic first-hand information of the event. He retailed his intelligence with gusto to the visitors who had dropped like locusts on his tarmac on hearing that he had something to say. Thus Geary shared in the sensation to his great satisfaction. In his favorite attitude on the recliner, he thus held forth:

"I can tell you all about it—the most amazing thing that's happened in America for many a long year." He had a great opinion of himself as a raconteur, and meant to make the most of his opportunity now. "This fellow Faddley is perhaps the oldest man in the egg business today. He's old in point of years, too. Well—most of you know him, I believe.

Here is an instance where the crookedness of age warps a man's mind and sends him into a groove of madness. I suppose he had felt himself gradually being left behind by the younger generation, you know — snubbed would be the word—and it preyed on him. Anyhow, it turns out that for some months before the tragedy he had indulged in a sort of ritualistic retirement—meditation and so on—in one of his big egg flats that he kept for emergencies. Imagine a man of his age locking himself in that enormous building, surrounded by tier upon tier of empty incubators, laying boxes and all the paraphernalia of his trade! A solitary little figure in that great loneliness, tired of the world, or disgusted with it—I don't know which. He'd stay there all day, so Mrs. Faddley said, and most of the night; only going indoors to his home toward dawn. Nothing she could say would shake the old fool. If she wanted him to meet company he would growl out that he had no time for it. The man must have been day-dreaming, for he had known the whole place inside out for years, and that the Reserve Flat had always been empty and had never heard so much as a single cluck from a layer. Anyhow, as the inner door swung open, there came to the ears of the inspector a dreadful sound, like a soul in torment; echoing in the back recesses of the Flat—and then old Faddley came running out with a face as white as death."

"What time yesterday did the arrest take place?" asked a young airman. "I was up at the time and had no visi-screen on the dash."

"Seven o'clock on Tuesday evening," replied Geary. "About four hours after—" He was interrupted by the flashing of the visi-screen that occupied the greater part of the wall to his left.

"By Jove," he said, "here's the end of the tale."

For the visi-screen flashed:

Faddley Case Trial Result. Harold James Faddley, age 156, of Upman Egg Farm, Wilts, sentenced to suspension from all public production work, with loss of privileges, for life.

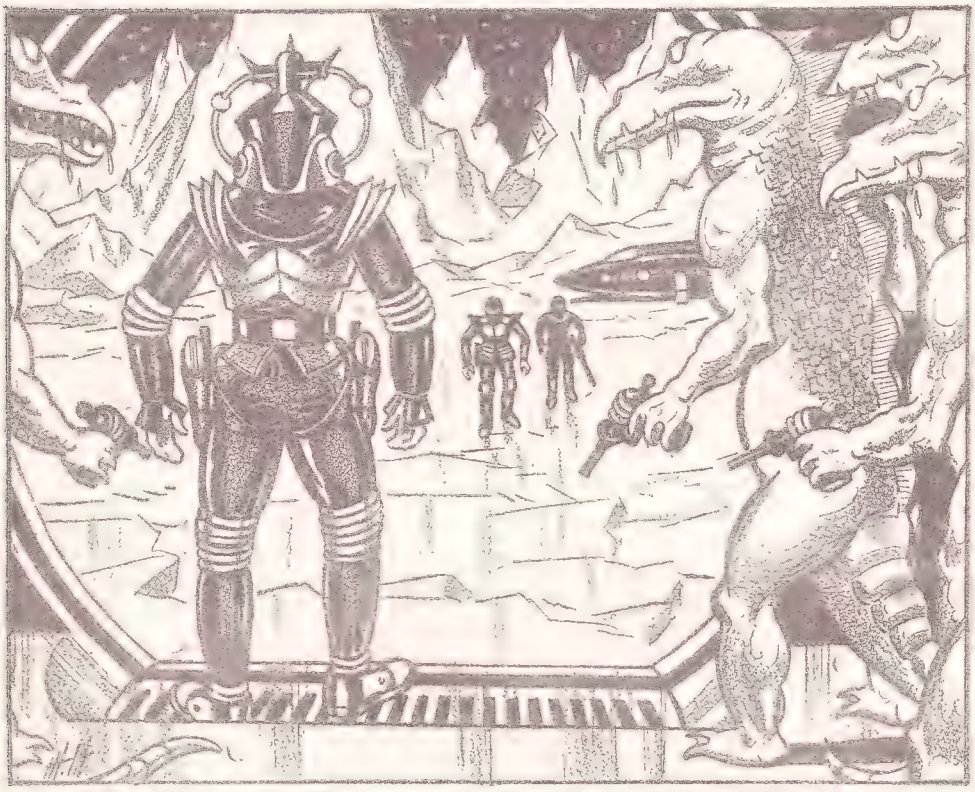
He admitted his guilt on all counts—to smuggling from Yu-nen Province of China by Air Egg Liner—to harboring in Federal domains and on scheduled premises — to leading on scheduled grassland under concealment of night — contrary to hygienic acts and public laws—a prohibited animal, to wit, a cow.

IN THE NEXT ISSUE

CHESSBOARD OF MARS, a Thought-Provoking Novelette of Super-Telepathy and Scientifically Controlled Destinies, by EANDO BINDER

"THE SLICKEST, COOLEST SHAVING CREAM I EVER USED!"
LISTERINE SHAVING CREAM
104 COOL SHAVES for 25¢
That's what thousands of men are saying about Listerine Shaving Cream. You'll say so yourself, once you try it.
Why not gamble two bits and make it prove itself to you? You will get 104 of the finest, coolest shaves you ever had.
In Listerine Shaving Cream is a gentle balm and lubricant that is kind to the tenderest skin . . . leaves it cool and pliable instead of raw and stiff.
LAMBERT PHARMACAL CO., St. Louis, Mo.

He Roamed the Universe, a Lone Avenger of the Space-ways—and No Man in the Entire Solar System Guessed His Secret!



Lanoth started walking toward the Wanderer, his cohorts behind him

WANDERER of the VOID

By DR. ARCH CARR

Author of "The Discus Men of Ekta," "Warriors of Eternity," etc.

A PALL of intense sadness lay like a blanket upon the grounds and the dull-gleaming mansion of Walter Brundage, owner of the small dark star, Merthel. For Janice Garth, Brundage's beloved young granddaughter, had for many hours lain ill with some strange malady.

Miriam Garth, mother of the stricken child, stood before the screen in the visigraph room, impatiently waiting for the operator to adjust his apparatus to the broadcast beam. Then, at a signal from the technician, she swept up the portable speech transmitter.

"Brundage City, on Merthel, call-

ing the Wanderer. Calling the Wanderer. Emergency call. Brundage City calling the Wanderer. . . ."

The young woman spoke into the microphone until her throat became dry, her voice husky. But there was no answer to her call. The visigraph screen was blank. Had she been too late?

If only Daniel, her husband, were here with her now, how much easier it would be to bear. She longed for the comfort of his arms, his soft words of encouragement, his love. Daniel Garth, who had been enmeshed in a web of circumstantial evidence built up by lawless conspirators; Daniel, who had been convicted and sentenced for life in the Plutonian penal institution for a crime which he had never committed. . . .

Suddenly the glittering surface of the visigraph screen reddened. Words in a flat, metallic voice crackled from the reproducer.

"The Wanderer stands by for visual connection with Brundage City, Merthel."

The visigraph cleared and there appeared before Miriam Garth the image of the universal man of mystery—the Wanderer. A weird picture, there on the screen, the picture of a man clad in a grotesque black steel space suit of a type not generally accepted by rocketmen.

No person, knowingly, had ever gazed upon the features of the Wanderer. There were no transparent windows in his helmet, and he had never removed his space shell in the presence of others. Neither had his natural voice ever been known to register upon human ears.

Two retinascopic photo-electric cells, set in the face of his helmet, surmounted the slitted orifice of a speech reproducer. On either side of the iron head was a sensitive, cylindric microphone. A small oxy-generator of peculiar design was affixed to the armor of his shoulders. Thus the Wanderer was able to breathe, see, hear and speak without his identity becoming known.

"Miriam Garth, daughter of Walter Brundage, calls the Wanderer," Miriam spoke nervously into the transmitter. "My daughter has been brought down by a strange form of lethargic encephalitis, which our Merthelian physicians do not understand. Daniel Garth, the child's father, who is a prisoner on Pluto, is affected similarly. But Dr. Vacor, the prison surgeon, has been able to keep him alive for three years. I feel that if Dr. Vacor could see my child there might be a chance to save her life."

Breathless, Miriam paused, then went on: "But we have no space ship in which to carry her to Pluto. Bors Lanoth, the pirate, attacked our city and destroyed the only ship on the planet. If you are near Merthel, will —won't you take her?"

The Wanderer's electro-mechanical countenance showed no sign of human emotion as he replied:

"Prepare the child for the flight. I shall land upon Merthel shortly."

The distant sun, pale and anemic, plunged beneath the jagged western horizon as the Wanderer's trim little ship, with braking rockets bellowing a mighty challenge to the bleak Merthelian landscape, dropped gently upon the ground near the Brundage mansion.

A SIDE port in the ship hissed, spun open—and the Wanderer stood there on the ground, waiting, his electric eyes casting twin shafts of dull, smoky-red light into the shadows.

Miriam Garth and her father, both clad in heavy, electrically heated fur garments, approached the ship. Walter Brundage bore the unconscious form of his granddaughter in his arms. The Wanderer motioned them toward the open port.

He waved aside their thanks, boarded the ship behind his passengers, closed and sealed the port. He made them comfortable and placed the child on a spring-suspended litter, fastened her securely to guard against the strain of acceleration. Then he went to the controls of his one-man ship.

He turned to Miriam and her father, said: "Ascension!"

"Ready," replied Brundage.

The Wanderer glanced at the indicators before him, moved a lever. The ship rose rapidly on an even keel, her underjets roaring in crescendo.

"Acceleration!"

Again Brundage spoke their readiness.

With a blast of stern rockets, the ship shot outward in a long arc toward the disc of Pluto. The Wanderer, his body braced against the support rails, gradually adjusted the gravitation plates as Merthel's pull lessened.

After the fierce thrust of acceleration had subsided, Miriam let her eyes linger upon the motionless figure of the pilot. Who was this strange man in black steel armor, this weird avenger of crime who was ever ready to assist someone in acute distress?

Laymen on every planet had advanced the theory that the Wanderer was a senseless, cosmic ray automaton remotely controlled by some human intelligence. But scientists contended otherwise. The Wanderer had displayed certain reflexes to unforeseen contingencies, they claimed, that denoted perfect coördination of mind and body. This could not have occurred, the men of science stoutly declared, in the case of a mechanical robot.

The Wanderer had first come into interplanetary prominence by swooping to the aid of a group of embattled space patrolmen on the inner satellite of Mars and assisting them in the extermination of a band of pirates.

Thereafter, wandering ceaselessly through the black night of space, the Wanderer had waged an almost single-handed warfare against piracy until but one outlaw leader now remained alive—Bors Lanoth.

The Wanderer's deeds had made of him a legendary figure of romance and mystery, had earned him the title, Wanderer of the Void. And the fact that he was a masked unknown lent glamour to his exploits.

He had agreed to reveal his identity only when Bors Lanoth, last of the space pirates, no longer roamed the skies.

Thus Miriam sat in meditation for many long minutes, her mind reviewing the Wanderer's colorful history, her thoughts returning at last to her personal troubles.

There was Daniel, her husband, a convicted felon, who for three years had lain in a deathlike sleep in the Plutonian prison. And now Janice was affected in a like manner. What was the nature of this unknown physical condition that had seized them?

Tears started afresh to Miriam's eyes. She turned toward the observation port beside her, gazed out in an abstracted manner. Then she sat upright in her chair.

Many miles out across the blackness of space she saw the unmistakable orange-red flame from the stern jets of a space ship, the yellow dots that were portholes in the side of the vessel. She announced her discovery to the Wanderer.

"Yes," he said, "I know. That ship has been pacing us for more than an hour. It is Bors Lanoth's flagship, manned by his followers from the reptile planet. I know it by the set of its rockets. For a long time I have sought an encounter with Lanoth, a fight to the finish. He would never give me that opportunity. But now, while I am on a mission of this sort, he brings the fight to me."

FEAR tore at Miriam's heart with icy fingers. The young woman's nerves, burning like red-hot wires, were at the breaking point under the severe mental burden that had been imposed upon her.

She slumped listlessly back into her seat, suddenly deciding to place her faith blindly in the iron-clad creature at the pilot controls before her.

"Deceleration," the Wanderer announced.

Brundage hastily affixed elastic harnesses about Miriam and himself. The child required no attention. Janice was suspended on all sides.

Vibration of the stern rockets ceased. Then, abruptly, Miriam felt her frail body surge forward against the supporting straps as the ship's braking rockets flamed into action.

Miriam stared out at Lanoth's ship, which had now ranged much closer. The craft had cut propulsion rockets and was braking fiercely, nosing downward for a landing on Pluto.

Wind shrieked about the hull of the Wanderer's vessel as it hurtled into Pluto's frigid atmosphere. The Wanderer regulated the gravitation reactor accordingly. They soon dropped to a jarless landing upon an ice-incrusted plain near the penal institute.

The Wanderer brought out space helmets and oxy-generators from a locker in the ship's nose.

"As you know, Pluto's atmosphere at night is but slightly above absolute zero," he said. "You will need these to protect your lungs against the extreme cold. There is a small one to accommodate the child. All are fitted with short-distance cosmic ray transmitting and receiving apparatus."

The Wanderer placed a helmet about the head of each of his passengers, started the oxy-generators, saw that the communicating devices were functioning properly.

The Wanderer's voice boomed in Miriam's ears.

"I require no space gear for myself," he said, as if in answer to the question she had been about to voice. "My helmet is sufficient."

The girl looked at him—and wondered.

"There will be fighting, perhaps, and you will need a weapon." The Wanderer looked at Brundage and indicated a rack of guns on the far wall.

Brundage selected a side arm and a long gun, provided himself with ammunition. The Wanderer inspected the brace of Wauxum high-pressure pistols that hung in clip holsters at his own waist.

Miriam and Brundage donned their fur garments, and the young woman took the child in her arms. They then followed the iron man into the air-lock and paused at the quartz window in the exit port. Lanoth's ship was just settling down some hundred or more yards away, the flame from her underjets blasting out a wide berth in the ice plain.

"It would be best for you to remain on the ship," the Wanderer told Miriam.

He opened the lock and he and Brundage stepped down upon the ice. Miriam closed the port behind them, pressed her face close to the window, her heart thumping madly against her ribs.

The dark Plutonian night was bitterly cold, hazy with drifting flakes of congealed and frozen atmosphere. Overhead, stars glittered with a sort of frigid, jewel-like splendor, adding a touch of eeriness to the frozen world below.

Miriam jerked nervously at the burst of white illumination that suddenly came from the pirate ship. She could now see plainly her father and the Wanderer striding purposefully across the ice crystals.

A port in the great ship opened and a space-clad man whom Miriam instantly knew to be Lanoth, leaped out. The young woman shuddered, almost overwhelmed with nausea, at sight of the reptilian horde that poured out of the lock behind the pirate leader.

HALF man, half crocodile they appeared to be, walking upright upon their short, stubby hindlegs, their long, horny tails sliding upon the ice. A single large eye, set in the center of their foreheads, glowed with a baleful luminosity. They leaped and cavorted about Lanoth, brandishing weapons grasped in their webbed hands. They wore no space suits, for they were inhabitants of a planet far more frigid than Pluto.

Lanoth waved them back and started walking toward the Wanderer. The two men halted, facing each other at a distance of thirty feet. Brundage was to the left and slightly back of the Wanderer, his long gun held in readiness.

The communicating device in Miriam's helmet brought their conversation to her.

"Ho, Wanderer! We meet at last."

"Yes, Lanoth, we meet. But not at a time to my liking. I have on board my ship a child who is at the very

threshold of death. Her life is measured in minutes unless Dr. Vacor, the prison surgeon, takes her in charge immediately. Let me pass with she and her mother, and I give you my word I shall return—"

"What care I if the child dies?" Lanoth snarled. "You are, indeed, dull of wit, Wanderer, if you do not realize that this situation is little short of perfect for the fulfillment of my plans. I shall cancel the old charge against Brundage, as well as the one against you."

Miriam saw her father surge forward, heard him rasp: "Damn your black soul, Lanoth! I'll—"

A gun flashed in the hand of a reptile man. Brundage spun, slumped to the ice, lay still.

The Wanderer fell into a crouch, came up with mechanical precision, a flaming gun grasped in each of his metal hands. Lanoth gave ground before the terrible fusillade. He had not been able to match the Wanderer's lightning double draw. But now his guns were out and up, blasting forth the hatred of their owner.

The Wanderer, his own guns jerking viciously, marched steadily forward into the blazing death that hurtled at him from the hands of his adversary. Behind Lanoth, the reptile men held their fire, fearful of striking their leader.

Crouching beside the window in the little space ship, Miriam Garth heard the clang of bullets against the helmets and armor of the men on the snow plain before her, felt the vibration as missiles struck the hull of the vessel.

Brundage was moving, now; was getting on his feet. He had only been stunned by the bullet. The helmet had saved him.

He brought up his rapid-fire long gun, brought it to bear upon Lanoth's followers, pressed the trigger. But the pirates closed in upon him, slowly, inexorably, despite the menace of his gun.

Lanoth and the Wanderer were close together now, still blazing away at each other. Miriam marveled that either of them had survived the withering fire from the other's guns. Lanoth began to weave about from side to side. And then the Wanderer dropped to one knee.

"Up!" Miriam shrieked into the little microphone in her helmet. "Get up, Wanderer!"

The Wanderer shook his head as if to clear his brain, got slowly and wearily back to his feet. He took deliberate aim and his left gun spat once at the pirate leader. Lanoth staggered, the weight of his guns swung his limp arms to his sides and he crashed to the ice in a crumpled heap.

The reptile men came forward in a rush.

Miriam was about to turn from the window when, suddenly, from out of the darkness in the direction of the penal institute, there charged more than a hundred space-clad giants, some swinging huge swords above their heads, others firing Wauxum guns rapidly as they ploughed through the frosty ice, dashing straight toward the band of half men.

Some of the pirate crew sought to escape by fleeing into their ship. But their line was quickly broken, hacked to pieces by flickering double-edged swords, blasted out of existence by guns in capable hands.

Soon it was all over. Out there on the ice lay the members of Lanoth's inhuman crew. None lived save those who had sealed themselves in the pirate ship.

HOPE blossomed anew in Miriam's heart. Guards from the prison had come to the Wanderer's aid, had defeated the pirates and made it possible for Janice to be taken on to Dr. Vacor. Perhaps it was not yet too late—

Suddenly Lanoth's ship shot upward at an angle, stern first, with half her underjets working. The big vessel rolled and pitched, her banks of keel rockets firing intermittently. The surviving reptile men were making a desperate effort to take off from Pluto. Evidently unskilled hands were at the pilot controls.

The roar of cross talk in Miriam's phone ceased abruptly. An authori-

tative voice spoke crisply in the Plutonian tongue. Then, as the pirate craft nosed skyward under power of its propulsion rockets, a thin line of green flame lanced up from the roof of the prison.

Two glononite shells exploded with a fierce white glare against the forward hull of the laboring space ship. A third tore away her jets. She rolled over slowly, folded nose upon stern and plunged downward, a seared and twisted mass of wrecked metal, to a final resting place in the bleak mountain range that fanged the eastern sky.

Space piracy in the Universe had ended, Miriam knew, with the destruction of that mighty ship. The Wanderer's crusade was finished, and the iron man could now unmask, reveal his identity, and retire to a life of peace and quiet. Who was the Wanderer? And what was the grudge that Lanoth had harbored against Walter Brundage?

Brundage, the Wanderer, and two of the guardsmen approached the little ship. They were coming to take Janice on to the prison hospital, to Dr. Vacor. What would Janice find there—life? Yes, possibly. Life in the form of an encephalitic lethargy that would drift, ultimately, into death—

Miriam's taut nerves gave way. The young woman fainted, slid slowly to the floor, still tightly clasping her unconscious child to her bosom.

Later, Miriam Garth opened her eyes in the prison hospital. She was on a long examining table, and Dr. Yedell Vacor was bending over her. The huge physician offered a small vial filled with a thick, yellow liquid. She swallowed the drug and immediately felt new life surge through her veins.

Vacor smiled, said: "Our roof lookout observed your encounter with the pirates, and we sent guardsmen to your assistance. They brought you here. Your daughter is safe in the room with her father."

"She—has she regained consciousness?"

Vacor's face clouded. "She has not, Mistress Garth. It is a case that baffles me. Her condition is the same as her father's, and I have been able to do nothing for him other than to keep him alive with intravenous injections of concentrated food, and to take precautions against the collapse of his digestive system through disuse."

"What is the nature of his illness?" Miriam asked.

"Three years ago, Earth time," said Vacor, "when your husband came to serve his sentence in this prison, he made a most unusual request. He asked to be placed in a chamber that had been specially insulated with a certain combination of metals. Daniel Garth was a scientist of prominence, not a man with a criminal record, so I, as superintendent of the institution, consented. I knew he had sufficient reasons.

"Shortly after his entrance here, he fell into a stupor and physical degeneration set in rapidly. The latter ceased immediately, however, when he was placed in the insulated room. I have kept life in him, but I have failed to restore him to consciousness for one small instant. He is not diseased; he has fallen before the influence of some strange electrical emanation, the nature of which I cannot understand. Neither can I discover its source.

"Your daughter is in the room with her father. Perhaps, some day, they will recover completely. I do not know."

MIRIAM tugged at the physician's sleeve.

"You have not told me everything, Doctor," she exclaimed, her voice edged with hysteria. "A thing like this could not just happen. I know that this wave of electrical energy has been intentionally directed against Daniel and Janice by some intelligent being, some person who wishes to destroy them both. And, if they are securely shielded from the wave, why do they not regain consciousness? You have formed some theory, Doctor. You must tell me."

"You are correct, Mistress Garth, in your assumption that a deliberate

attempt has been made upon the lives of your husband and daughter. I have definitely established that fact. The prison cosmic ray engineers have registered the emanation on their detectors, but the wave is of such an infinitely high frequency that their instruments are not sufficiently sensitive to indicate the direction from whence it comes—"

"But you have not explained why they do not regain consciousness."

Vacor spoke slowly. "Indeed I have not. And I find it the most difficult of all explanations. I am a medical man, not a scientist well versed in electrodynamics or cosmic ray radiation, so I shall make the situation as clear to you as I possibly can.

"The human body, as well as any given amount of matter, vibrates at a certain frequency peculiar to its own size, weight, and chemical composition. To subject a human body to a wave whose frequency is the same as its own would bring about a number of physical changes. The brain would be most disastrously affected, since it is the seat of the senses. The fierce upheaval of the identical frequencies beating together would almost instantly obliterate the mind, drive out the ego, the intelligence. Next, there would follow a general breaking down of the vital organs—"

There was a deathlike pallor upon Miriam's face and her voice sounded hollow in the great room.

"Then the minds of Daniel and Janice have been utterly destroyed."

"Not destroyed," Vacor said, "but released from their bodies." He motioned toward the darkness beyond the window. "They are out there, perhaps—or in this very room with us. We do not know, cannot know unless they return to their bodies. Let us hope they do so."

Miriam pondered the immensity of the thought. It was beyond credence. Human intelligences torn from their fleshy garments to be hurled naked out—into eternity? Where else? Drifters in time and space. Would they ever return to their bodies, or was there some unknown and immutable physical law that would prevent—

At this point Walter Brundage came to the table.

"Lanoth has regained consciousness and wishes to make a statement before he dies," he said. "The Wanderer wants you as a witness, Doctor."

They crossed the large room and entered a small operating cell in the surgery department on the left.

The Wanderer and a prison physician stood at either end of a metal table on which there lay a broad-shouldered young Earthman. The dying man turned his head slightly so that his failing eyes might bear upon the newcomers.

Miriam Garth gasped.

"Why," she faltered, "why, it's Jean. Jean Gossard. I can't believe it."

"Yes, Miriam," the white-faced man on the table murmured, "Jean Gossard, your childhood playmate, is Bors Lanoth, the pirate. I make this statement so that I may find some measure of peace in death—"

Lanoth — or Gossard — coughed, blood bubbling on his lips. Dr. Vacor administered a stimulant. The pirate rested a moment, then went on:

"As you know, Miriam, Daniel Garth and I both loved you when we were youngsters on Earth. You cared only for Daniel. This caused me to hate him, to hate you, to hate even your father. Neither of you ever suspected it, for I guarded my secret closely. My hatred flamed higher when Daniel finished his science course at the university with high honors, while I failed miserably. Something happened to my mind—I do not know what—and I swore to make each of you pay dearly for what I then considered a great wrong.

"I TOOK a space ship to Venus and there joined a band of pirates. Using the name Bors Lanoth, I eventually became their leader and built up a powerful organization. It is not necessary to recount our deeds now. They are well known to you.

"When *denexium* was discovered on Merthel and your father went

there, Miriam, to supervise personally the mining, I felt that my revenge was close at hand. And when you and Daniel joined him it was I who took the cargo of *denexium* which Daniel Garth was accused of stealing. I worked out the false evidence that convicted him. He is innocent."

A pained expression twisted the features of Walter Brundage. He bowed his head.

"I should have known it," he muttered. "I am sorry, Miriam."

Miriam placed her cheek against her father's shoulder, took his big hand in her small ones.

Lanoth's words came again, in a whisper:

"And it was I who subjected Daniel to the ray that forced his intelligence from his body. But I did not direct a wave against his daughter. She, after attaining a certain age and size, and being the child of Daniel Garth and consequently of similar chemical construction, became affected by a harmonic of the fundamental wave from my transmitter. She became attuned in much the manner as we, in order to escape etheric noises and distortion, adjust our visigraph receivers to a harmonic of the transmitting station."

"Why did you not transmit this wave against Garth early in his year of bonded freedom?" Vacor asked.

"I wished to, greatly," Lanoth replied feebly, "because I feared he would trace the stolen *denexium* to its buyer on Mars. But I did not perfect my transmitter until the latter part of the year. Then, much experimentation was necessary in order to determine the natural wave length of his body."

"Where is this transmitter?" Brundage demanded.

"It was destroyed with my ship. There is no longer an emanation." Lanoth turned his head slightly. "Now, Wanderer — you have — vanquished me. The—the universe is waiting—to learn your identity. Tell them—as you promised. And—"

And Jean Gossard, alias Bors Lanoth the pirate, was dead.

But the Wanderer said nothing. He was leaning against the wall for support, his arms hanging motionless at his sides, the red glow in his electric eyes dimming rapidly.

Miriam suddenly remembered that she had seen him shot down in his battle with the pirate. "The Wanderer is wounded!" she cried. "Lanoth shot him!"

"I will attend him," Vacor exclaimed.

As Vacor started toward the Wanderer a young physician dashed into the room.

"Dr. Vacor!" he said breathlessly. "Daniel Garth and the child are regaining consciousness. Come quickly."

With a glad cry, Miriam ran past the young doctor and out of the room. Brundage and Vacor, supporting the Wanderer between them, followed.

A weak and slightly emaciated Daniel Garth sat on the side of his cot, smiling. Miriam flung herself into her husband's arms, tears of gladness streaming down her cheeks.

"Daniel!" she choked.

Garth spoke soft words of greeting.

Little Janice, who sat on the cot beside her father, said: "That was a bad old dream I had, daddy."

Brundage and Vacor came in with the limp, heavy body of the Wanderer sagging between them. Both spoke heartily to Garth.

Daniel Garth laughed.

"Do not concern yourselves further with that heap of metal," he said. "Toss it into a corner. I have finished with it."

The two men stared.

"What do you mean?" Vacor asked quickly, suspiciously.

"I mean," said Garth, "that you are burdening yourselves with an inanimate object."

Brundage turned to Vacor.

"Perhaps his brain is not yet clear," he said.

GARTH laughed again. "My mind is perfectly clear, I assure you. I will explain. I built that robot in my laboratory on Merthel some years ago. I synthesized a brain which I

placed in its skull. The auditory nerves are connected with the microphones that serve as ears, the optical nerves with the retinascopic photoelectric cells, and the nerves of speech with the reproducer.

"The motor nerves, Doctor, are connected with the mechanism that activates the robot's body, delicate relays making and breaking the different circuits in the course of motivation. Power comes from a small, almost inexhaustible battery of my own design. The brain is nourished by a certain fluid a pump circulates through it."

VACOR and Brundage placed the robot in a chair.

"It is marvelous," Vacor murmured. "I do not fully understand how the synthetic brain—"

"I am coming to that," Garth went on. "Years ago on Earth, Jean Gossard—Bors Lanoth—and I experimented with a high frequency wave which we hoped would release the human intelligence from the body. We obtained little success and gave up. On Merthel I experimented further, wishing to liberate my own intelligence so that I might project it into the brain of the robot.

"Then I was convicted of stealing a cargo of *denexium* and was forced to give up my laboratory work. Toward the latter part of my year of bonded freedom, I traced the *denexium* to a certain buyer in Dotho, Mars. I secreted myself in this buyer's warehouse several times and gained much information. I learned that it was Lanoth who had stolen the stuff and made it appear that I was the thief.

"I further learned that Lanoth was about to loose a secret wave against me. The pirate was aware of my effort to trace the metal, and he did not want me to prove my innocence.

"Peculiar physical symptoms which I experienced later indicated that Lanoth had started transmitting his wave. The symptoms disappeared before I had suffered to any great extent only to return at regular intervals for several days. Then they ceased.

"The realization suddenly came to me that this was the same ray with which Gossard and I had experimented on Earth. Lanoth, then, must be Jean Gossard. And he was seeking to find the natural wave length of my body. Soon he would be successful.

"With only a few days of liberty remaining to me, I hastened to Merthel, changed the appearance of my space ship, placed the robot on board and hid the ship in a mountain range near Brundage City. Then I came here to start serving my sentence, and requested the insulated room. I wanted Lanoth's ray to release my intelligence, but I wished my body shielded against physical deterioration.

"When the ray forced out my intelligence I—I shall call my intelligence 'I'—entered the brain of the robot and started a warfare against Lanoth and piracy in general. I, too, perfected a ray transmitter and incorporated it in the body of the robot, in order that I might project my ego out of the synthetic brain when necessary.

"I released my intelligence tonight just after Lanoth died and I—my intelligence—went out to assist Janice's drifting ego back into her little body. You have heard Lanoth's statement; now, with mine, you have a clear picture of the whole affair."

Walter Brundage stepped forward.

"My boy," he said huskily, "I do not know what to say about the part I took in prosecuting you. What can I do?"

"Erase it from your memory," Garth told him.

The thunder of Vacor's voice filled the room.

"By *N'yuth*, Garth! Then you are—"

Daniel Garth clasped his wife and daughter to him.

"I am, or was," he said, "the Wanderer of the Void."

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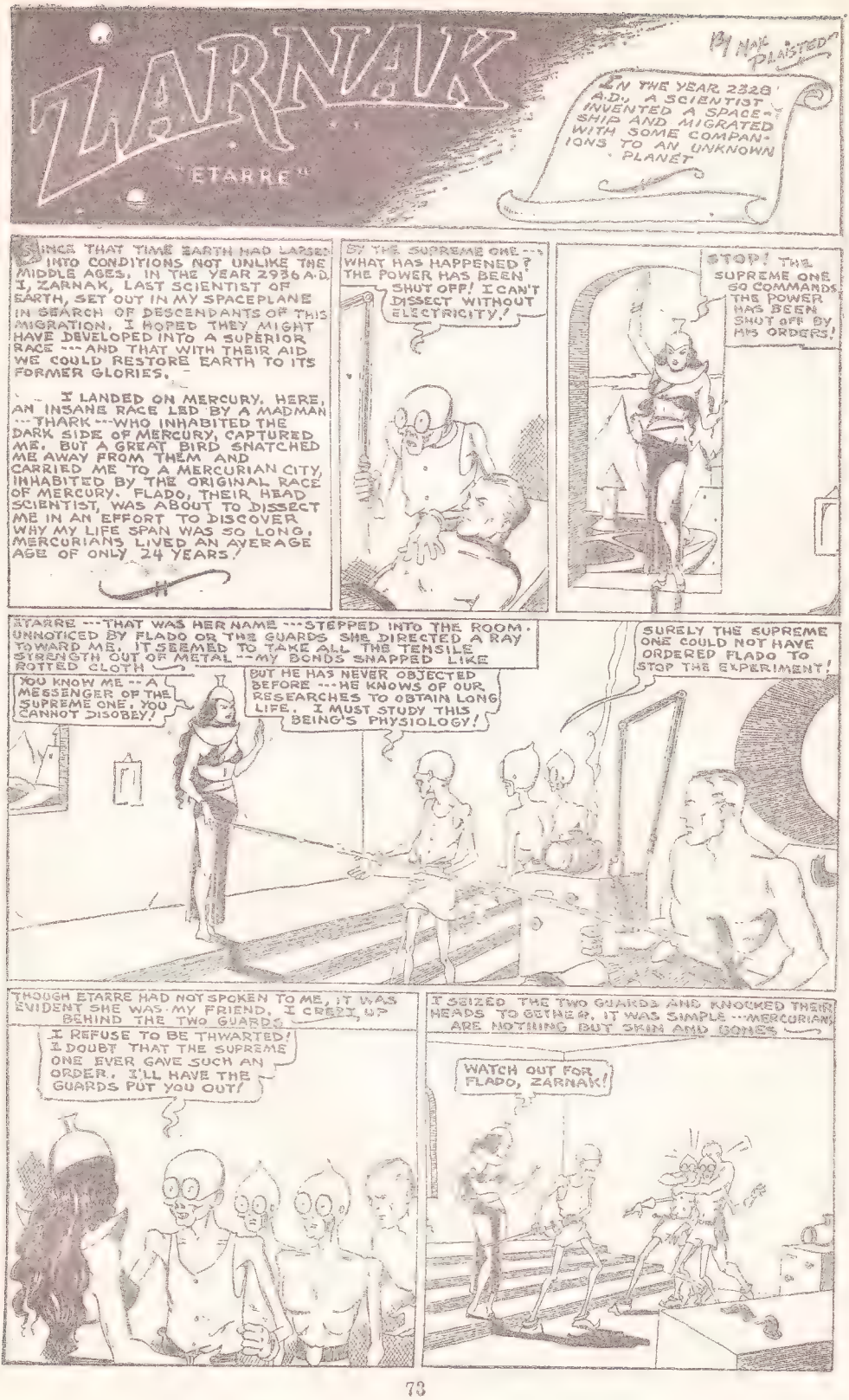
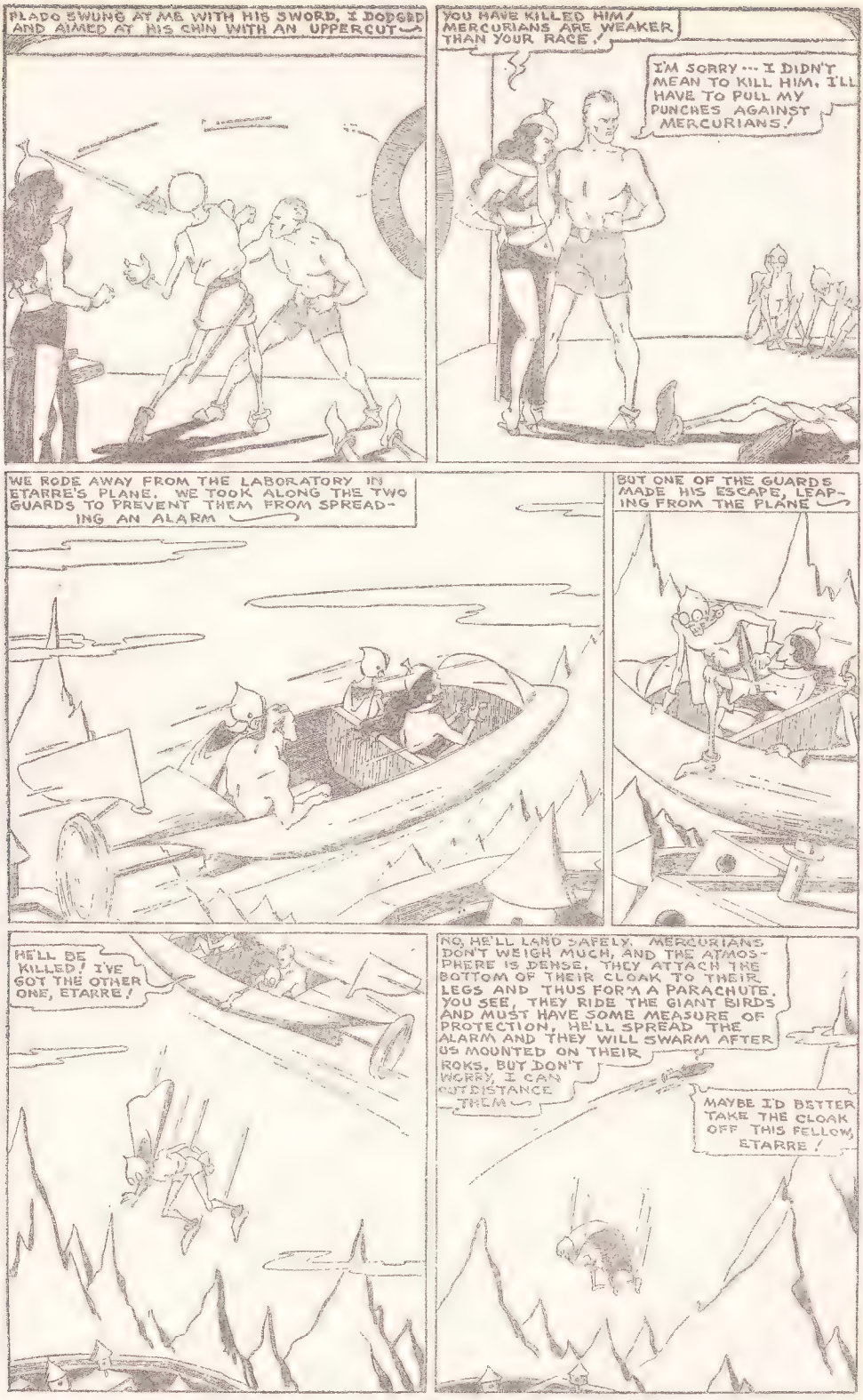
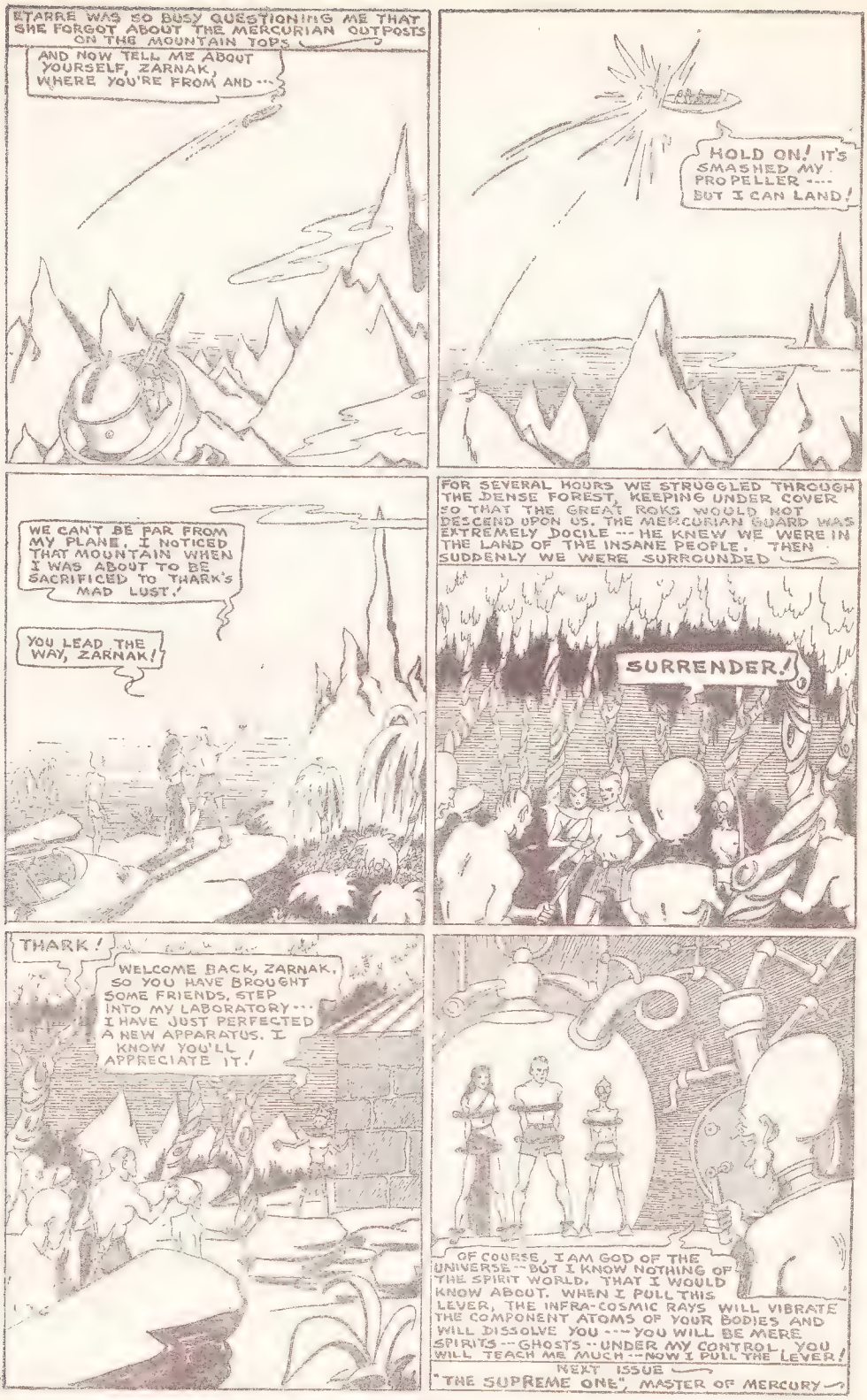
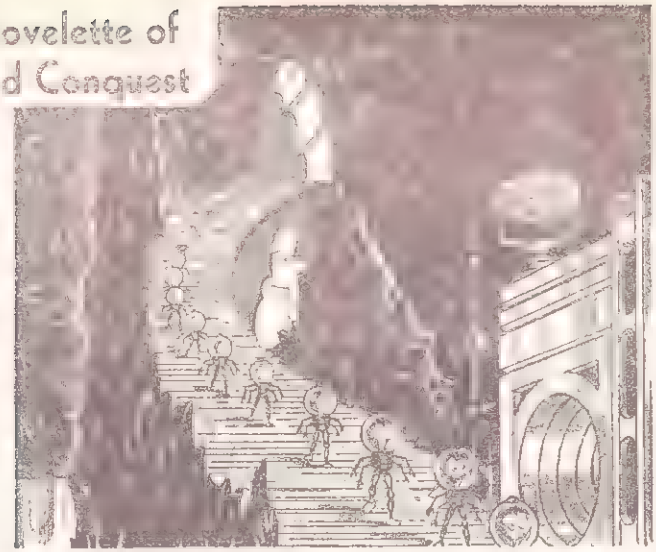

ZARNAK
"ETARRE"
By NAT PLAISTED
IN THE YEAR 2328 A.D. A SCIENTIST INVENTED A SPACE-SHIP AND MIGRATED WITH SOME COMPANIONS TO AN UNKNOWN PLANET
SINCE THAT TIME EARTH HAD LAPSED INTO CONDITIONS NOT UNLIKE THE MIDDLE AGES. IN THE YEAR 2936 A.D. I, ZARNAK, LAST SCIENTIST OF EARTH, SET OUT IN MY SPACEPLANE IN SEARCH OF DESCENDANTS OF THIS MIGRATION. I HOPED THEY MIGHT HAVE DEVELOPED INTO A SUPERIOR RACE --- AND THAT WITH THEIR AID WE COULD RESTORE EARTH TO ITS FORMER GLORIES.
I LANDED ON MERCURY. HERE, AN INSANE RACE LED BY A MADMAN --- THARK --- WHO INHABITED THE DARK SIDE OF MERCURY, CAPTURED ME. BUT A GREAT BIRD SNATCHED ME AWAY FROM THEM AND CARRIED ME TO A MERCURIAN CITY, INHABITED BY THE ORIGINAL RACE OF MERCURY. FLADO, THEIR HEAD SCIENTIST, WAS ABOUT TO DISSECT ME IN AN EFFORT TO DISCOVER WHY MY LIFE SPAN WAS SO LONG. MERCURIANS LIVED AN AVERAGE AGE OF ONLY 24 YEARS!
BY THE SUPREME ONE --- WHAT HAS HAPPENED? THE POWER HAS BEEN SHUT OFF! I CAN'T DISSECT WITHOUT ELECTRICITY!
STOP! THE SUPREME ONE SO COMMANDS. THE POWER HAS BEEN SHUT OFF BY HIS ORDERS!
ETARRE --- THAT WAS HER NAME --- STEPPED INTO THE ROOM. UNNOTICED BY FLADO OR THE GUARDS SHE DIRECTED A RAY TOWARD ME. IT SEEMED TO TAKE ALL THE TENSILE STRENGTH OUT OF METAL --- MY BONDS SNAPPED LIKE ROTTED CLOTH
YOU KNOW ME --- A MESSENGER OF THE SUPREME ONE. YOU CANNOT DISOBEY!
BUT HE HAS NEVER OBJECTED BEFORE --- HE KNOWS OF OUR RESEARCHES TO OBTAIN LONG LIFE. I MUST STUDY THIS BEING'S PHYSIOLOGY!
SURELY THE SUPREME ONE COULD NOT HAVE ORDERED FLADO TO STOP THE EXPERIMENT!
THOUGH ETARRE HAD NOT SPOKEN TO ME, IT WAS EVIDENT SHE WAS MY FRIEND. I CREPT UP BEHIND THE TWO GUARDS
I REFUSE TO BE THWARTED! I DOUBT THAT THE SUPREME ONE EVER GAVE SUCH AN ORDER. I'LL HAVE THE GUARDS PUT YOU OUT!
I SEIZED THE TWO GUARDS AND KNOCKED THEIR HEADS TOGETHER. IT WAS SIMPLE --- MERCURIANS ARE NOTHING BUT SKIN AND BONES
WATCH OUT FOR FLADO, ZARNAK!


PLADO SWUNG AT ME WITH HIS SWORD. I DODGED AND AIMED AT HIS CHIN WITH AN UPPERCUT
YOU HAVE KILLED HIM! MERCURIANS ARE WEAKER THAN YOUR RACE!
I'M SORRY ··· I DIDN'T MEAN TO KILL HIM. I'LL HAVE TO PULL MY PUNCHES AGAINST MERCURIANS!
WE RODE AWAY FROM THE LABORATORY IN ETARRE'S PLANE. WE TOOK ALONG THE TWO GUARDS TO PREVENT THEM FROM SPREADING AN ALARM
BUT ONE OF THE GUARDS MADE HIS ESCAPE, LEAPING FROM THE PLANE
HE'LL BE KILLED! I'VE GOT THE OTHER ONE, ETARRE!
NO, HE'LL LAND SAFELY. MERCURIANS DON'T WEIGH MUCH, AND THE ATMOSPHERE IS DENSE. THEY ATTACH THE BOTTOM OF THEIR CLOAK TO THEIR LEGS AND THUS FORM A PARACHUTE. YOU SEE, THEY RIDE THE GIANT BIRDS AND MUST HAVE SOME MEASURE OF PROTECTION. HE'LL SPREAD THE ALARM AND THEY WILL SWARM AFTER US MOUNTED ON THEIR ROKS. BUT DON'T WORRY, I CAN OUTDISTANCE THEM
MAYBE I'D BETTER TAKE THE CLOAK OFF THIS FELLOW, ETARRE!


ETARRE WAS SO BUSY QUESTIONING ME THAT SHE FORGOT ABOUT THE MERCURIAN OUTPOSTS ON THE MOUNTAIN TOPS
AND NOW TELL ME ABOUT YOURSELF, ZARNAK, WHERE YOU'RE FROM AND ...
HOLD ON! IT'S SMASHED MY PROPELLER .... BUT I CAN LAND!
WE CAN'T BE FAR FROM MY PLANE, I NOTICED THAT MOUNTAIN WHEN I WAS ABOUT TO BE SACRIFICED TO THARK'S MAD LUST!
YOU LEAD THE WAY, ZARNAK!
FOR SEVERAL HOURS WE STRUGGLED THROUGH THE DENSE FOREST, KEEPING UNDER COVER SO THAT THE GREAT ROKS WOULD NOT DESCEND UPON US. THE MERCURIAN GUARD WAS EXTREMELY DOCILE --- HE KNEW WE WERE IN THE LAND OF THE INSANE PEOPLE. THEN SUDDENLY WE WERE SURROUNDED
SURRENDER!
THARK!
WELCOME BACK, ZARNAK, SO YOU HAVE BROUGHT SOME FRIENDS. STEP INTO MY LABORATORY ... I HAVE JUST PERFECTED A NEW APPARATUS. I KNOW YOU'LL APPRECIATE IT!
OF COURSE, I AM GOD OF THE UNIVERSE -- BUT I KNOW NOTHING OF THE SPIRIT WORLD. THAT I WOULD KNOW ABOUT. WHEN I PULL THIS LEVER, THE INFRA-COSMIC RAYS WILL VIBRATE THE COMPONENT ATOMS OF YOUR BODIES AND WILL DISSOLVE YOU --- YOU WILL BE MERE SPIRITS -- GHOSTS -- UNDER MY CONTROL YOU WILL TEACH ME MUCH -- NOW I PULL THE LEVER!
NEXT ISSUE
"THE SUPREME ONE", MASTER OF MERCURY

A Novelette of World Conquest



The ASTOUNDING

CHAPTER I

A Dying World

MERNOQ stood alone upon the balcony. At his back towered the observatory with its mammoth telescope. Below the balcony, rough, rocky cliffs fell away to meet the restless sea which rolled and tossed fretfully.

He swept the vast panorama before him with lidless eyes. From this prominence the country was visible for miles. Off to one side, in the distance, loomed jagged peaks. On one of these stood a power plant, an energy radiator, one of the countless broadcasters which dotted Earth in the portions still inhabited by men.

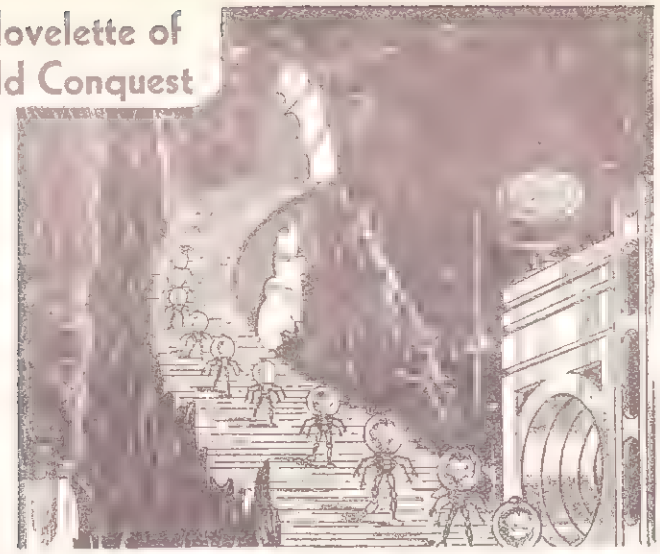
The man, if such he could be called, gazed into the darkening heavens. Behind the observatory the sun hung low in the sky. It had been that way for several hours, its slow movement barely perceptible. Earth's rotation was many times slower after five million years.

Mernoq himself represented an amazing spectacle. He was a man whom his ancestors of five million years before would have disowned as an incredible monster. Given a latitude of fifty thousand centuries, evolution had worked strange pranks on mankind. The biped which had held reign over Earth's dominions for the greater share of his long, varied existence was much unlike his predecessors of the remotely distant mechanical age.

Was it fate, coincidence, or a dominating, undying spark which had seen

Mankind Speeds Beyond the Stars to Flee

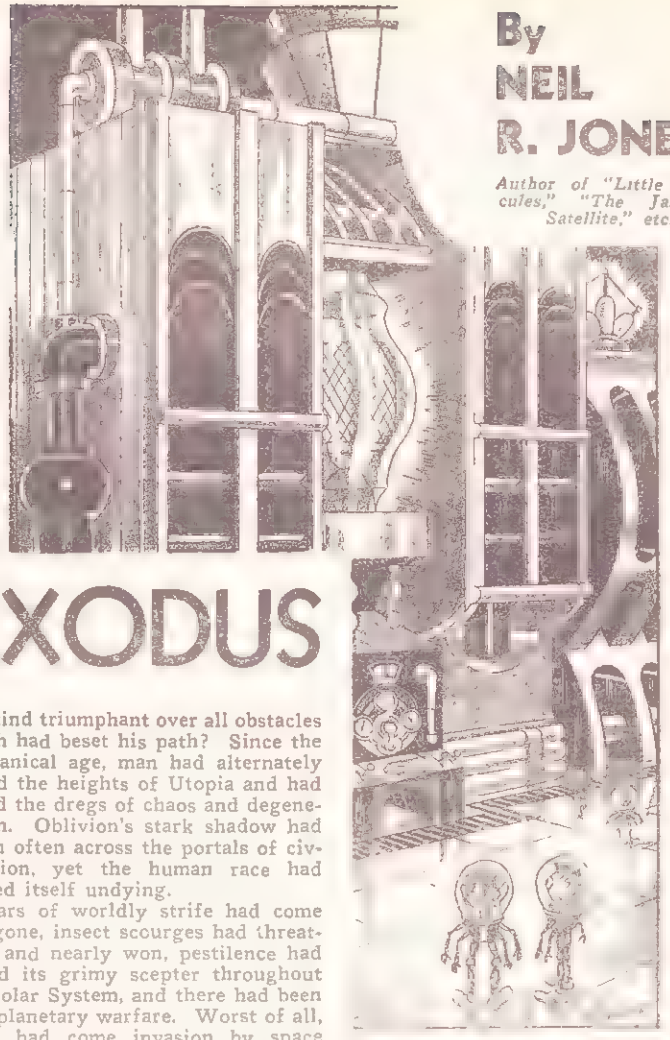
A Novelette of World Conquest



The ASTOUNDING EXODUS

By NEIL R. JONES

Author of "Little Hercules," "The Jameson Satellite," etc.



The weird cavalcade filed inside the illuminated chamber

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Was it fate, coincidence, or a dominating, undying spark which had seen mankind triumphant over all obstacles which had beset his path? Since the mechanical age, man had alternately scaled the heights of Utopia and had tasted the dregs of chaos and degeneration. Oblivion's stark shadow had fallen often across the portals of civilization, yet the human race had proved itself undying.

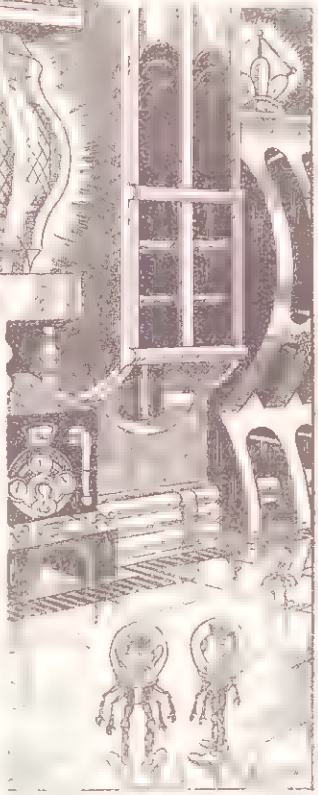
Years of worldly strife had come and gone, insect scourges had threatened and nearly won, pestilence had waved its grimy scepter throughout the Solar System, and there had been interplanetary warfare. Worst of all, there had come invasion by space wanderers, creatures from the far-off stars, nearly invincible and equally as threatening. Mankind on its planets and moons of the Solar System had suffered enslavement. Only by the destruction of Venus' entire atmosphere had mankind destroyed the in-

Mankind Speeds Beyond the Stars to Flee the Lifeless Solar System of the Future!

By
NEIL
R. JONES

Author of "Little Hercules," "The Jameson Satellite," etc.

EXODUS



The weird cavalcade filed inside the illuminated chamber

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vaders. This had happened long ago, yet the Earthmen remembered.

Mernoq was a typical Earthman. He stood between four and five feet in height. Standing upright on two legs which were jointed to move in either of two directions, he had four arms, two on each side, each member terminating in eight fingers. The legs were much longer than the body. During the last hundred thousand years or more, the body had grown smaller, due to the increasing diminution and final disappearance of the digestive tract and organs of respiration.

To keep alive, humanity no longer found it necessary to eat and breathe. Science had supplanted the comparatively short existence of the gastric organs with a more practical means of sustenance. Man's radioactive blood was kept charged with energy from the huge broadcasting units. Oxygen was superfluous. In this manner the life span had been materially increased until a life of ten thousand years had become common.

The head of Mernoq had neither mouth nor nostrils. Like the appendix of man, the unused mouth had finally disappeared. Food no longer existed, and articulate speech had long since yielded to mental telepathy. On either side of the head were slightly elongated ears, curved to catch the slightest of sounds. Two black, lidless eyes peered intently from the face, intelligence radiating from their depths. Humanity had done away with sleep. Like food and oxygen, it was no longer necessary. The energy broadcasters recharged the body constantly.

Hair, that telltale mark of barbarism, had become unknown among Earthmen. Instead of hair, there arose from the head fully two dozen antennae. These served a double purpose. They picked up the thought waves of their fellowmen and also received the broadcasted energy which supplied their bodies.

Mernoq stood looking at the distant broadcaster which threw pink waves of light in every direction. From this station he and the members of the observatory staff received the energy their bodies required. Reception, except in the case of the more powerful broadcasters, was limited to a thousand miles or less.

THE number of broadcasters in one vicinity varied in accordance with the amount of population. There were few spots on Earth's surface where one stood in danger of starvation.

Turning, Mernoq entered the observatory, climbing a few short steps to where several of his companions were grouped about a table. Upon it stood intricate machines. Several of the Earthmen were gazing at a large screen upon which the great telescope projected what it saw. A large pair of fiery stars occupied the center of the field. Mernoq spoke mentally. The antennae of his comrades quivered slightly in attentiveness.

"The long night will soon be upon us with its terrible coldness. Then we must retreat into the sealed chambers."

"Sirius is now nearing the zenith."

Eloow indicated the bright double star with a wave of his arm.

"It is time that Uljoph returned," said one of the others. "He has been gone over thirty-five years on his expedition to the twin suns of Sirius."

"A rumor has come to me," said Mernoq. "Do not yet fear that the expedition has become lost in space. Perhaps tonight our telescope may pick up the returning space ship."

"A rumor—what have you heard?"

Manipulating a set of controls at his side, Eloow looked up inquiringly into the face of Mernoq. The rest watched the screen eagerly. Sirius dimmed away into the distance as the telescopic field was brought closer to Earth. Vacuum yawned blackly at them.

"Black—and empty!" Reod exclaimed.

Mernoq remained silent in spite of this gloomy remark. He was thinking deeply. Earth was a dying planet. A space expedition had been sent to Alpha Centauri in an effort to find a planet outside the dead Solar System

to which mankind might migrate. Alpha Centauri was found to possess sixteen planets—none of them, however, suitable for habitation. The expedition to Sirius had immediately followed.

"We shall wait five years more," said Mernoq, "and then another expedition will start out for still another star."

"But where?"

"It has not been definitely decided. Many of the nearer stars have been suggested. But we shall give this expedition time to prove itself. Both Uljoph and Aamon are among the best commanders of the Earthmen."

"Why didn't you go yourself instead of Aamon? He has always seemed bitter against you for your unparalleled success, especially because the Earthmen have placed their faith and reliance in you to lead them."

"I know," Mernoq replied. "That is the very reason I sent him. I gave him the chance to distinguish himself along with Uljoph. Aamon is a mental genius and should be encouraged!"

"What of tonight?" Eloow wanted to know. "You said you had had word."

"We have observed nothing with our telescope," replied Mernoq. "The observatory at Yigni, however, has sent me strange reports. As you are probably aware, they not only have the most powerful telescope in the world, but the most erratic one. They have sacrificed clarity for greater magnification. I received a report from Bralel who is stationed there. He reports seeing a flash of the expedition's space ship returning from Sirius. The vision blotted and faded. He gave me his telescopic figures. If those at Yigni really saw the space ship coming home, I calculated that it would show up on our screen either today or else tonight."

THIS information acted as balm for the impatience of the Earthmen. But fully two months were to elapse before the space ship actually arrived. Radio communication at that distance was impossible. Civilization waited expectantly—and anxiously. Failure had crowned a previous effort. Optimism, however, ruled to such a marked extent that partial preparations had been made for a departure from Earth. The laboratories and workshops were kept busy. One question was uppermost in the minds of all. Had Uljoph and Aamon found a perfect world in the system of Sirius, or had failure fallen upon the Earthmen once more?

And then one day the ship arrived, plumbing Earth's waning atmosphere at a greatly reduced speed. Out of it poured the forces of Uljoph and Aamon. They were unusually jubilant and seemed glad to be among their own kind once more after a departure of three and a half decades. They immediately joined Mernoq.

"Why did you not radio?" he asked them.

"Our proximity with Sirius destroyed many vital parts of our sending apparatus, but we heard your messages before entering the Solar System," Uljoph replied.

"It will be necessary to construct our sending apparatus on different principles when we return once more within the influence of Sirius," stated Aamon.

"Return?" echoed Mernoq. "Then you have been successful!"

"We have!" was the enthusiastic reply.

It was a colorful story which Uljoph related. After fifteen years of space flight, they had reached Sirius, discovering that it possessed twenty-seven planets. The planets, varying in size, presented varying conditions. Many of them had moons. Commencing from the innermost planet, the Earthmen had explored them all, even to the outermost world distantly removed from the dazzling orbs of Sirius.

Two worlds had been found to be ideal. They were the sixth and eighth planets. The seventh world was habitable but was overrun with rank vegetation and loathsome forms of life. Zyse, the sixth planet, was much to be preferred. Bexn, the eighth world, teemed with animal life,

boasting a strange race of intelligent creatures. Zyse was by far the most beautiful world of the entire system.

"We must desert this worn-out world," said Mernoq. "The vanguard of our people will soon start for Zyse."

"But there must be more preparations made," Aamon argued. "We cannot start at once."

Mernoq saw with disappointment that Aamon's attitude was antagonistic. He saw enmity in his glance, the enmity which Mernoq hoped he would have lost on the trip to Sirius. The great leader's reply, however, was conciliatory.

"Yes, preparations are indeed necessary before the greater share of us leave for the new world," he admitted. "Yet, during your absence, our optimism led us to construct many space ships. A vast fleet of them is equipped and ready now on Mars."

"No. I do not intend leaving for the new system until the last contingent goes. That will be a long time yet. I shall go with the last ships which are to carry the valuable *kletin* metal now stored on Venus."

Months later, the waiting space ships on the planet Mars headed for Zyse. They were the forerunners of the exodus, the first ships to leave the old System. From that time on, ships continually left for the new home planet until several years later there were but a few left. Strangely enough, Aamon showed no desire to head contingents to Zyse. Mernoq was glad, for Aamon was valuable and seemed to have got over his old envy.

CHAPTER II

Beneath the Monolith

EARTH had become nearly abandoned as Mernoq and two hundred of his men stood on the desolate planet Venus. The sun's huge globe hung just at the edge of the horizon. Venus had ceased rotating. One side forever faced the sun, a red, hot hemisphere. The other side, frozen cold by the temperature of space, lay dark and as equally deserted.

The atmosphere was gone. A terrific war with the invaders from a distant star had destroyed the envelope of air, ripped open fissures in the planet, released the inner elements and had blown the cruel invaders into eternity.

Venus was as dead and deserted as Earth's moon—or Mars. Stars shone crystal clear all about the sun, gleaming and twinkling. In space suits, the forces of Mernoq walked over the cold surface of the planet. Mernoq had brought the space ship to rest upon the narrow, thousand mile strip of shadowland between the cold and flaming hemispheres of the dead world. Mernoq now gave instructions to Aamon.

"Stay with the ship while we descend into the underground chambers after the *kletin* metal. Be sure that the energy broadcaster continues to function properly. We shall be back shortly."

Enclosed in the bulky space suits with their multitude of exterior apparatus, the Earthmen headed for a tall monolith rising from a clump of rocks which strewed its base. Reod shone a peculiar ray of green intensity from his space suit upon the broad base of the tower. Almost immediately a doorway opened. In a long line the weird cavalcade filed inside and down a broad flight of steps into a large chamber. The walls glowed, radiating an ethereal light of their own.

In the center of the chamber stood a massive machine, its various parts formed of intricate apparatus. This was the auxiliary energy broadcaster to be used in case the one on the space ship failed, or in the event that the space ship was moved away from the vicinity. The sides of the vast chamber were pierced with small doorways leading to the storerooms of the *kletin*. When charged with a peculiar force of light produced by the Earthmen, this metal furnished gravity for the floors of space ships. It was to be found in large quantities upon the planet Uranus, and the Earthmen had mined considerable of it on this far

planet and moved it to Venus for storage.

In groups, the Earthmen entered the storerooms and started the removal of the *kletin*. Mernoq saw one of the Earthmen walk toward him with a load in his four arms. It was Ibaeg, and his action seemed a strange one. Others were also emerging from the storerooms with the metal, but with the exception of Ibaeg they were all heading for the broad stairway leading to the surface.

"Ibaeg, where are you taking that?"

The man made no reply, but hurried his pace. He ran straight for the energy broadcaster. Mernoq and his subordinates were standing at the opposite end of the machine. Ibaeg was approaching from the other side. Sensing trouble of some sort, Uljoph hurried toward Ibaeg, seeking to intercept him. But he was not quick enough. Striding up to the dormant energy plant, Ibaeg threw with all four arms his load of metal into the mechanism. There came a crashing note of twisted parts.

MERNOQ stared aghast at this strange action, uncomprehending. The miscreant legged it for the flight of stairs, those near him too surprised to think of pursuit. Besides, Aamon and more of the Earthmen were in the space ship outside. Ibaeg could not escape. His action had been that of a madman. It was seemingly pointless.

At the foot of the stairs, Uljoph stopped and stared upward.

"Are you mad?" he demanded.

Ibaeg made no reply. He was nearly to the doorway which led from the monolith's base when a terrific roar shook the subterranean chamber. Then came a mighty concussion as if a gigantic body had thudded against the ground far above. With a frightful crash and billowing accompaniment of dust, a great white boulder swept Ibaeg off his feet and beneath it, rolling down the stone steps, grinding them to powder and smashing into the rocky wall. Uljoph leaped out of the way just in time.

The curtain of rock dust spread like a veil as large pieces fell from the fractured wall blocking the upward passage completely.

"The monolith has fallen!" exclaimed Reod. He stared at the ruins in dismay. "There was an explosion!"

All became quiet. The rock dust settled slowly. For a moment the Earthmen surveyed the clogged passage in mental silence. Not a square foot of opening was left. They were sealed as if in a tomb.

"We must signal Aamon! He can dig us out with disintegrators."

A call was sent out to Aamon. The reply which came back jarred the sensibilities of the Earthman worse than had the strange action of Ibaeg or the succeeding explosion of the monolith.

"Mernoq—your reign is at an end!" came his vindictive thought waves. "Ibaeg did his work well! The broadcaster is broken, and you are entombed! When I leave for Earth, you will all die! I shall be free to build my own empire in the new system of planets!"

"But my men—I have loyal men aboard ship!" exclaimed Mernoq, more out of surprise and consternation than contradiction.

"Dead, Mernoq, all dead—just as you shall soon be!" gloated Aamon. "My supporters are many! I now return to Earth where I shall set a time explosion to detonate the Earth's atmosphere in the same manner employed by the Earthmen who destroyed the atmosphere of Venus ages ago!"

"You are mad, Aamon!"

"I shall be safe—far beyond the Solar System—when the cataclysm takes place! When I reach Zyse I shall conquer the Martian vanguard of ships and all other ships which have left since then! I, alone, shall be all powerful! Now die, Mernoq, you and all your puppets!"

Mernoq looked around at his companions who were stricken dumb by the rapid succession of events all planned so well by the evil genius of Aamon. In each other's eyes they read the agreement of the certain doom to befall them. The space ship, containing the source of their sustenance,

was gone. The auxiliary plant in the chamber where they stood was wrecked. Their situation was truly desperate.

"WE have two hours in which to live," was Mernoq's quiet, yet deadly ultimatum. "We may be able to repair the damage which Ibaeg did, but, unless we hurry such repairs—"

Several of the Earthmen who were skilled mechanics set to work on the damaged broadcaster. They worked steadily, removing the damaged parts and repairing them. Time moved by. An insidious sensation of weakness commenced creeping over the Earthmen.

Suddenly one workman swayed dizzily. Another workman sprang to the task, taking the place of his fallen comrade. Mernoq experienced a strong urge to sit down. His legs seemed no longer capable of holding his body upright. He fought desperately against this urge. When his knees sagged, he was promptly caught in the arms of a companion who eased him gently to the floor.

"The time?" he inquired. "How long have we?"

"Less than half an hour for most of us," was the grim reply. "A few of us may last even longer than that."

Mernoq felt himself lapsing into unconsciousness. Fully three-quarters of the Earthmen had weakened and fallen. Some retained their senses yet were too feeble to move. The lack of energy was making itself felt.

"The—the lever," came the weak, mental communication from one of the Earthmen who staggered to the machine with the two remaining parts. Two of his companions weaved in the direction of the starting lever while the other stood at his side to assist him.

Behind them, Mernoq rose weakly upon his four hands. A strong, subconscious prompting had returned him to consciousness. He seemed unable to rise. He watched Cyponom reach for the lever with one hand, his remaining three arms clinging to various nearby portions of the machine to support his sagging body.

Yxlese reeled helplessly against his fellow mechanic, dropping the remaining bit of apparatus in its place. The piece had only to be fastened. Yxlese reached out weakly to give the necessary twist. His arms stiffened and never reached the mechanism, for his supporting comrade fell, Yxlese slumping across his inert body.

Through a haze of semi-consciousness, Cyponom watched Mernoq crawl forward through an effort of tremendous will power, reach the machine and pull himself slowly upward. A dizzy mist obscured the vision of Cyponom. When it cleared, he saw Mernoq sag backward and hit the floor. Cyponom's heart sank. At the last vital moment, failure had mocked them. He was the only one left with his senses—part of them—and they were rapidly leaving him. He clung tight, but seemed too weak to hang on any longer. He felt his grip weakening.

His eyes wandered to the part which Mernoq had made one final effort to reach and turn. His heart skipped a beat. It was fastened! Mernoq had reached it! A darkness overwhelmed Cyponom. The final order from his brain commanded three reluctant arms to drop their holds and seize the lever which the other arm held with its eight fingers.

As Cyponom fell, the weight of his body pulled the lever. A grinding noise issued from the machine. Pink vibrations of light danced from the apparatus, forming a shimmer of color around it. Strewed about the vast chamber lay nearly two hundred unconscious Earthmen, many of them close to death.

CHAPTER III

Entombed

THE broadcaster roared into action. Soon the reviving Earthmen, their antennae picking up the energy from the waves which penetrated their space suits, commenced to rise.

"How much better off are we now?" lamented Reod. "We are entombed!"

"We are alive," returned Mernoq spiritedly, "and while life still exists within our bodies we may yet dare to hope."

The philosophy of Mernoq was sound. Upon this philosophy mankind had clung tenaciously to life throughout the ages in the face of adversity.

"How are we to reach Earth without space ships, even if we do escape this place?" queried Uljoph.

"Reaching Earth is but half as important as sending out a warning of Aamon's treachery and his plans to explode the atmosphhere."

"But we have no way of getting to Earth, nor any way of signalling, in time to forestall Aamon's plan," said Uljoph.

"I have a plan," Mernoq told them, "a desperate plan, one depending upon close calculations and long chances, but first we must get free of this place."

Mernoq would not divulge his hopes. First, he said, they must win through to the surface of Venus. The outlook was discouraging. On three sides solid rock surrounded them. The bowels of the planet lay beneath their feet, while overhead lay heavy strata of mantle rock. The avenue before them was blocked with massive fragments of the great monolith interspersed with rock débris from the cracked walls of the passage.

"I once heard of a secret exit from this place," said Nenerm.

"Where is it?"

"I do not know," was the uncertain reply. "These chambers are old. No one alive can remember when they were built. There is a legend telling of an attempted escape of the space invaders long ago. A group of them burrowed deep inside Venus. They were all destroyed by the earthquakes which followed the destruction of the atmosphere. A passage from these caverns is supposed to lead through their secret exit."

"Then why were these caverns not destroyed by the quakes?" asked Mernoq.

"That is what throws doubt on the truth of the legend," replied Nanerm, "yet the legend exists."

Mernoq at once ordered his men to tap the rock walls in search of hollows beyond. The Earthmen spread out into small groups, searching carefully the adjoining storerooms as well as the central chamber. Both wall and floor space was nearly covered before an excited, telepathic communication burned itself upon his brain.

"We have found it!"

Mernoq and his subordinate officers hurried to the spot. Several of the Earthmen held back a section of rock which balanced nicely on a convex axis. A dark passageway lay beyond. Uljoph advanced into it, but Mernoq motioned him back.

"Let the stone swing into place," he said. "We must be sure that it is dependable and will open at the right time in case we must return this way."

THE stone swung back. As Mernoq had feared, the opening of the secret door had been gropingly accidental. After much experiment, the concealed exit was reopened. A combination of pressure movements on the nearby wall was necessary. Mernoq and his men took careful note of these. He was then satisfied to enter. He detailed twenty of the Earthmen to stay with the energy broadcaster and keep it working properly.

"Watch it carefully. Our lives and yours depend upon it. We shall follow this passage to the end. If we fail to reach the surface, we shall return. If we win through, we shall communicate with you when we arrive back at the spot where the monolith stood."

With these parting instructions, Mernoq and the remainder of the Earthmen snapped on the glowing lights of their space suits and filed into the cavity out of sight around a bend in the tunnel. The opening was closed softly behind them.

They tramped for miles through the interior of Venus, the tunnel sloping gradually downward. Mernoq commenced to despair of ever reaching the surface, yet he was determined

to follow the tunnel to its termination. It became warm, excessively so. Although the surface of Venus was dead and cold, the interior was not. The Earthmen became aware of this more than ever as the passage continued its downward slant.

Then through the gloom ahead of them they saw the end of the subterranean passage. It ended blankly, yet, as they approached nearer, and their lights dispelled the shadows, they saw faint, square outlines of a huge door. A vague murmur beyond made them pause and grow apprehensive. Mernoq broke the suspense by ordering it opened.

Several of the Earthmen seized the huge, metal pull, shaking loose from it the dust of ages. No lock was in evidence. Constructed of stone and metal, the door was massively built, towering far above the height of the Earthmen who tugged at it. Contrary to the expectations of Mernoq, however, the door opened easily, partly of its own volition, so it seemed, as if it had waited patiently through the long centuries. Had the Earthmen only known it, the door had remained closed for more than a quarter million years.

A black dust vomited forth from the doorway, whirling and falling among the Earthmen. There followed a rumble like a thunderclap. Beyond the doorway lay a vast cavern whose high walls threw back the red and green glow of lurid flames. To their startled eyes were revealed long tongues of fire shooting up to lick the ceiling. They were no such flames as the burning of oxygen might produce. The flames were red, and terminated in oval tips edged with a blue-green luminosity.

"Come!"

Mernoq strode fearlessly in the direction of the raging inferno. His men followed. In warm, palpable dust which rose nearly to their knees, they walked slowly toward the brilliant fire which, as they approached nearer, they found issuing from a broad, deep crevice in the cavern floor.

"The internal fires of Venus!"

"I never believed they came so close to the surface."

They stopped at the edge of the fire pit and looked across to where the cavern stretched away into the gloom. Dimly visible were several rocky corridors. Mernoq lingered for a moment, undecided as to directions, but he saw that one end of the crevice might be skirted, and ordered the corridors to be explored. They circled the flaming cauldron to see what lay beyond. Uljoph drew Mernoq's attention to the cavern ceiling.

IT was perfectly circular. The cavern was not artificial. An intelligence had constructed it. Was the legend true? Had the invaders fashioned this place as a tomb or hideaway, or had mankind made their way to the internal fires long ago in the forgotten past? Mernoq wondered. They walked close to the ragged edge of the crevice and peered downward. The fiery hell was fully a hundred yards across, lurid flames obscuring the bottom. Hidden by the flames, a boiling inferno of molten rock gushed in and out of the planet's interior.

A mental cry of terror issued from across the darting flames. The antennae on Mernoq's head told him the directions from which the cry had come. Rapidly, he and his companions circled the fire pit and raced into the corridor from which the cry had issued. Other Earthmen were excitedly milling about inside.

In the center of the throng they came upon a ghastly scene. Seven Earthmen lay dead, mutilated, their space suits crushed and ripped. The bodies had been torn to shreds.

For a moment, in the horror of the situation, no one saw the large boxes whose ends flanked the passage. They lay on shelves. Uljoph was first to discover them. He climbed over the side of one and looked down into the metal container. His mind ejaculated one thought.

"Empty!"

Meanwhile, others were examining more of the strange boxes. Reod's warning came too late, for a long tentacle slid up over the side of a container, sharp, metal claws embrac-

ing an inquisitive and unsuspecting Earthman. Zougmre wriggled to free himself. A monstrous body surmounted by a hideous head lifted up, and more tentacles waved wildly, menacingly, as the creature glared balefully at the surrounding Earthmen.

Six snaky arms writhed from the black, repulsive body protected by an artificial shell of metal. The tentacle ends were tipped with metal sharpened to razor-edged cutting power. A head with an eye in front and an eye in back of the oval cranium turned from side to side. The eyes stared intently, exuding a cold, crafty expression of intelligence. A blunt snout sniffed inquisitively. Several of the nearer Earthmen sprang to the aid of their stricken comrade, but it was too late. Three more tentacles curled themselves around the doomed man, cutting his body to pieces.

"Get out of here — quick!" urged Mernoq. "We are powerless to combat them!"

Down the corridors ambled five of the insidious creatures. More of them were emerging from the metal containers. The Earthmen raced to the comparative safety of the fire cavern.

"What are they?"

"The invaders!" exclaimed Mernoq. "The things that conquered the Solar System ages ago! We thought them all dead!"

"Impossible!" deplored Reod. "How could they have lived?"

"Suspended animation!" replied Mernoq, whose astute mind had conceived the truth of the situation. "When we opened that door it released forces automatically which were necessary to bring them out of their sleep! Air machines were set to working, too! See! There is air down here, now!"

MERNOQ pointed to the leaping flames which seethed outward from the pit, the blue-green luminosity changing in color as it yielded to red and white heat. A tremendous wave of hot air sent them scurrying backward, making them aware of its warmth even through their space suits.

"We are weaponless against them!" cried Uljoph.

Mernoq realized this fact keenly. The space invaders were not only armored but doubtlessly possessed weapons, too. Mernoq hurriedly led the way around the fire pit and into that black section of the cavern which lay ahead. He was hoping against hope. They must go that way and hope for a continuance of the tunnel. To return the way they had come would ultimately mean finding themselves trapped. These thoughts flew swiftly among them.

"What of the twenty men we left with the energy broadcaster?" Uljoph suggested. "Suppose they attack in that direction?"

"The tunnel rises that way! The air will die out in the upper levels!"

"But if their air machines generate more air?"

The ominous question remained unanswered as the Earthmen set out on a run past the fire pit, the increased heat of the flames driving them far to one side near the wall. Mernoq's apprehensions grew less as he saw ahead of them the continuation of the tunnel. He had begun to fear that the cavern marked the tunnel's end. The Earthmen became weary after a mile or more of rapid running.

It was the desire of Mernoq to put a goodly amount of distance between them and the hateful creatures of the fire cavern. The latter had suspended themselves in a living death to bridge the ages with their menace.

CHAPTER IV

Subterranean Battle

TO the satisfaction of the Earthmen, the tunnel struck a steep incline, much steeper than the one they had recently descended on leaving the *kletin* storerooms. In some places steps had been cut because of the tendency toward perpendicular ascent. The climb was a long one. Soon they found that the air manufactured below them was dying out. They were once more in the usual vacuum. The

lower levels had been left behind.

They came to a long flight of steps up which they climbed to find themselves in another large cavern. All around them lay water. They were on an island in a subterranean lake. Their bright lights revealed shore little more than a hundred yards away. The island lay in nearly the exact center of the lake, several hundred feet from shore. It bore evidences of having been purposely constructed. The water, or fluid of the lake, which was closely akin to water, took on a peculiar appearance to the eyes of the Earthmen. It appeared dull and without lustre. This was due largely to a lack of atmosphere.

"How can we cross?" queried Uljoph. "We can hardly swim with our space suits."

"If the water is not too deep or the bottom is not full of holes, we can walk across."

"If we could but drain the lake down through the passage, why—"

Reod's original idea was lost in a brilliant burst of inspiration. His sudden enthusiasm was shared by the rest.

"Drain the lake into the internal fires! Kill the monsters!"

For a moment Mernoq felt himself overwhelmed by the possibilities of the daring plan. In his mind's eye he saw the waters of the lake rushing down the long tunnel, filling the lower level and cascading into the molten pit of fire. There would be boiling chaos, clouds of steam, the long dormant invaders scalded to death. His indecision was short.

"Cut a channel!"

The Earthmen set to work with a will, rapidly cutting a ditch from the lake to the orifice of the tunnel in the island's center. Luckily they possessed the rock picks which made up an essential part of their space suit equipment. Rapid headway was made, for the rock was a soft type peculiar to Venus. A large group started working from the tunnel entrance, while others worked up to their heads in water at the lake's edge, their globed helmets rising out of the water only to disappear again. Mernoq sent one of his men to gauge the depth of the lake. The man walked out of sight, the water swirling above his head. From time to time he radiated reports to his comrades above. His space helmet finally broke the surface of the water near the farther shore where their lights had revealed a continuance of the tunnel. The lake was comparatively shallow.

"We can all walk across," said Mernoq.

"When this water starts draining into the lower levels, we must hurry," warned Reod. "Steam will be forced back this way."

"What of those we left in the chamber of the broadcaster?" Uljoph inquired. "If the steam rises, they will die, too."

"The steam will seek the nearest and easiest exit," said Mernoq. "Besides, remember the heavy stone blocking the entrance to the secret tunnel. It will resist tremendous steam pressure."

ONE of the Earthmen made a startling discovery. "Air is blowing up the shaft! It is rising into this cavern!"

It was true. A strong current of air blew up the tunnel, bringing a thin veil of dust with it. Mernoq feared the coming of the interstellar invaders. More atmosphere was being generated from the corridors leading off from the fire cavern.

"We must hurry!"

Only a thin slice of rock separated the two channels which were nearly converged. The Earthmen chopped madly with their picks. They had worked frantically in shifts, only a fraction of their number being able to work unhampered in the ditch. A scout Mernoq had sent down the tunnel now returned.

"They are coming! They have weapons!"

A trickle of water burst over the lip of the tunnel leading from the island to the lower levels. The alarm spurred the laboring Earthmen to desperate measures in a superhuman effort to send the lake rushing down the tunnel before their ancient ene-

mies could emerge. Upon the rising current of air came a deathly cry which the radiophone ears of the space helmets readily picked up. It was eerie and chilling like no sound the Earthmen had ever before heard. One of the terrible things they had unwittingly revived strode into view below them on short, squat legs. In several of his long tentacles, he carried gleaming discs.

The Earthmen stood at the top of the shaft with upraised picks, the only weapons they possessed. These were crude, indeed, compared to the destructive weapons which Aamon had carried away on the space ship. Two of the pale, disc beams fell on the nearer of the Earthmen, focusing for but a brief moment. A round portion of each space suit glowed red, then disappeared. Underneath, the flesh of the Earthmen shone a ruddy hue, iridescent sparks shedding themselves rapidlly.

The unfortunate men fell dead while the discs of fire continued to burn completely through their bodies. The disc beams flicked upon others of the band. One of them staggered toward the water. Another sank to his knees beside the tunnel.

"Back!" he cried. With all four arms, he brushed and struck madly at the glowing spot which ate through his space suit. "Don't let them—"

He rose suddenly and jumped down upon the advancing monster in a despairing leap as he felt the death ray eating swiftly into his vitals. His impetuous leap hurled back the interstellar invader upon four or five more who came crowding up from behind. For a moment all was confusion in the tunnel. Metal-tipped tentacles hastened the death of the martyred man who had used his rapidly expiring body to the greatest advantage.

Extricating themselves from the tangle of bodies and tentacles, the terrible creatures of the fire pit scuffled up the shaft, their disc rays waving wildly. A deluge of rushing water met them, hurling them backward. One survivor clung with his tentacles to the lip of the tunnel opening. With mighty strength he pulled himself out of the strong current. Fully a hundred picks hacked his tentacles as all four arms of the nearer Earthmen rose and fell. The dismembered body, devoid of anything with which to cling, yielded to the strong pull of the current. The shrieking head with its hateful, venomous eyes, disappeared beneath the cascading water, the horrid screeching muffled to a frantic gurgle.

FOR a moment the Earthmen seemed rooted to the spot. Several of their number lay dead, victims of the disc beams. Yet the Earthmen had triumphed.

Reod shook his head ruefully.

"I fear for those we left in the chamber of the energy broadcaster."

"We must get back to where the space ship landed," said Mernoq. "Then we shall learn if they are safe."

Directions were quickly found, and they headed for the distant monolith which lay broken and wrecked because of the treacherous attempt Aamon had made to send them all into eternity. Even now, unsuspecting humanity upon the Earth prepared for further contingents of the exodus while Aamon was laying his plans. The thought urged Mernoq to greater haste. He had a plan in mind.

It was not long before the jagged remnants of the great monolith became visible upon the horizon. The Earthmen hurried to the spot. Where the entrance to the subterranean chambers had been located was now but a tumbled mass of rock. Mernoq sent out a call to those they had left imprisoned in the *kletin* chambers with the energy broadcaster. It was answered. Their comrades were alive, and the mechanism was functioning perfectly.

"How are we to communicate with Earth and warn them of Aamon's treachery?" queried Reod. "We have no equipment."

"Do you realize what type of explosive Aamon employed in destroying the monolith?"

"Why—yes. The explosive was annite. I recognized it when I heard the blast."

The mind of Mernoq still remained reservedly inscrutable. "Annite," he continued, "is a queer explosive."

"What do you mean?"

"Its destructive forces are tremendous yet it has a peculiar fault when exploded in space or upon a planet which has no atmosphere."

"Why, yes, fragments of it are generally blown off it and fail to explode."

"Exactly. Mostly through a lack of barometric pressure."

"And what good will that do us?" asked Uljoph.

"In one of these large rocks we are going to hollow out a crude form of rocket gun," Mernoq explained. "We shall charge it with the fragments of unexploded annite which is strewn about here on the ground."

In a brief flash they recognized Mernoq's purpose. They were going to rocket a warning to the Earth, hoping it would reach there in time to prevent the cataclysm which Aamon had planned.

CHAPTER V

Rocket Messages

PREPARATIONS were hastily made. With their picks, the Earthmen commenced fashioning a rocket gun in the side of a huge slab which faced away at the desired angle Mernoq wanted. For the construction of the rocket itself, Mernoq searched among the ruins at the monolith's base for metal stanchions which had previously been built into the entranceway. It was here that he made a discovery which he considered fortunate.

"There is sufficient metal to build three rockets for dispatch to Earth if we can gather annite to power all three."

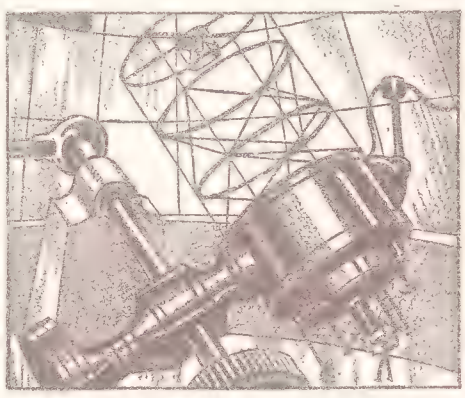
"Can we send a message without its destruction when the rocket crashes against Earth?"

"Arrange parachutes to be released when the rockets hit Earth's atmosphere," suggested Uljoph.

"Or we may be able to fix reverse annite charges in various positions so that the increasing friction with Earth's atmosphere will explode them and slow up the rocket's speed."

By searching a large part of the vicinity where the explosion of annite had occurred, the Earthmen gathered enough fragments to send off and equip with reverse charges all three of the rockets. Mernoq and his subordinate officers figured the mathematical position of the two planets and their movements quite carefully, also estimating the force of the annite. The rockets would hit their target.

"It is a long chance, these rockets," Uljoph said grimly. "What if none



of them are found, or suppose they land in an ocean where they cannot be recovered?"

"In that case," said Mernoq, "it will mean the destruction of Earth's atmosphere and all human beings now on the planet."

"You think that Aamon has done his work and departed for Zyse?"

"He has had time for it. Our only chance is to get word to them in time to charge the atmosphere with a counteracting gas."

"One of Earth's telescopes may discover our plight here," suggested Reod. "Space ships may be sent."

"I have been thinking the same," said Mernoq, "yet it is probable that Aamon has a ready story to tell, especially in regard to the demolished monolith."

Each of the Earthmen measured

the possibilities and hoped the gages at the observatories on the Earth picked up the proximity and composition of all foreign objects entering Earth's atmosphere. Some of the rockets would be traced and found. The question of timely arrival, however, was uppermost in their minds. In spite of the terrific power and accelerating impetus afforded by annite, it would be a long time before the projectiles reached Earth.

AT Mernoq's order, the Earthmen set off the first rocket. At long intervals the other two were sent into space. Off they hurtled in the direction of the green-glowing planet which glowed steadily in the sky. Earth and Venus were nearly in line, and the sun's position favored the flight of the rockets. Time must pass, time which battled with the time Aamon had set for the destruction of civilization. The rockets not only contained messages relating to Aamon's perfidy, but they also gave specific directions for charging the atmosphere.

It was at Reod's suggestion that another chance of salvation was made possible. Mernoq employed this at once. On a sloping wall facing the planet Earth, messages were written in gigantic characters on the chance that Earth telescopes might be trained that way.

Time dragged for the waiting Earthmen. A close watch was kept upon the green star, for the Earthmen were fearful of the telltale flash surrounding the planet which would tell of Aamon's success.

The Earthmen knew that it would be a long time before the stellar messages reached Earth, a great number of times longer than passage by space ship.

Only a few days had passed when one of the Earthmen issued a mental cry of excitement which brought the general focus of attention immediately upon the green, glowing planet which swung far off in space. Mernoq's heart chilled with fear. Had the gigantic cataclysm been unloosed at last? His keen eyes searched for the telltale glare of destruction. Instead, he saw several bright specks growing larger in the sky. They expanded to view as they came, and he saw that they were space ships.

Five in number, they cruised about the vicinity of the wrecked monolith, finally settling to rest. The stranded Earthmen watched in undecided anticipation. Was this help arriving, or had Aamon returned to finish the sinister work which had narrowly failed him the first time? Several figures stepped from the nearest ship and approached them. Mernoq, with gladness in his heart, recognized one of them as Eloow.

"Earth's atmosphere!" cried Mernoq, voicing the apprehension uppermost in his mind. "Is it saved?"

"We do not yet know for certain, but we hope for the best."

"How did you get here so soon? We sent rockets, but that was but a few days ago."

"We read your cliff message from our space ship," said Eloow. "We were already on our way here."

"But Aamon—where is he?"

"On his way to Zyse, but it is a small start he has. We left for Venus secretly almost at the starting moment of Aamon's ship in the direction of Sirius. His course of flight has diverged only at a slight angle from our own. I was suspicious of him when he told how the monolith had been destroyed in blasting a necessary passage into the *kletin* chambers. He reported that you and the others not returned with him had decided to stay and move the *kletin* out upon the surface of Venus before more ships were sent for it."

"WHEN were these ships to come for us?" Mernoq asked.

"Sixteen Earthly days hence."

"When Aamon's destruction of Earth's air was consummated and he was safely on his way out of the Solar System," observed Mernoq.

"And you were found entombed and dead," added Eloow. "When our telescope picked up the inscriptions you made on the cliff, I dispatched one of our ships back to Earth to take pre-

ventative measures against Aamon's treachery."

"The formula for charging the air?" Mernoq interrogated eagerly.

"The formula so long preserved and which is entrusted to but a few of us, you, Aamon and myself included. The same formula which our ancient ancestors used in keeping the exploding emanations from Venus' atmosphere harmless when they struck the atmosphere of Earth."

"Then our fears are at rest, for Aamon would not have timed the explosion to occur before he had left the Solar System, and you say that he has but a short start."

"That is so."

"Aamon must never reach Zyse," Mernoq avowed.

"It is unlikely that he shall," replied Eloow. "I have suspected him for a long time. I never placed the trust and confidence in him that you did. On one reason or another, I held up most of the ships which were to leave with Aamon, but I could not manage to delay Aamon himself. I did the next best thing. I placed a man aboard with orders to hamper the speed of his ship in case we wished to catch up."

"Let us give chase at once!"

Mernoq hurried with Eloow to his ship. Four ships rose from the cold, dead surface of airless Venus and raced off into space. The remaining ship stayed while its occupants set to work releasing the score of imprisoned Earthmen attending the energy radiator.

The course of Aamon's ship had led sunward, designed on a straight course to Sirius which would cut close to the orbit of Mercury. Earthmen eagerly scanned the proximity detectors as high speed was attained. The four ships spread out so that they cruised several thousand miles apart. They were nearing Mercury's orbit when the sunward ship of the group first picked up the location of Aamon's slower-moving space ship. The four pursuing ships gradually converged. A message was radiated for Aamon to stop. His answer was a vicious blast of power which narrowly missed the nearest ship of Eloow's fleet.

Aamon put on a sudden spurt of speed. It was evident that Eloow's minion who had been responsible for the slowing up of Aamon's ship had been detected. That his end had been a swift one neither Eloow nor Mernoq doubted. The four ships kept abreast of Aamon's at a safe distance. Another blaze of power went wide of its mark. Still another and much closer charge caused one of the pursuing ships to tumble crazily in space until it once more righted itself.

"Shall we fire?" asked Eloow, turning to Mernoq.

Mernoq nodded grimly. The order was communicated to all four ships. Simultaneously blasts leaped out at the fleeing craft. Two of them struck. They waited to see the extent of the damage.

AAMON'S ship, demolished at one end, rolled awkwardly off its course, still hurtling at meteoric speed. Mernoq and Eloow watched the proximity detectors. A series of blasts from the space-wrecked craft lashed savagely and spitefully at its avengers. They were ineffectual yet revealed dangerous potentials which were still Aamon's.

"Another barrage will finish him."

Mernoq halted in the act of issuing instructions as Eloow gripped his arm and pointed significantly at the proximity detector.

"Aamon has lost his propulsion power. He is falling into the sun. What end could be more fitting? We have only to stand by at a safe distance and watch him go to a well-merited death."

Mernoq revised his orders to fire. Instead, his ships formed a funeral consort about the doomed and helpless ship of his arch-enemy whom once he had trusted and encouraged. They cruised too far distant for Aamon to vent any further spite upon them, although he made several vain attempts. Nearer and nearer the great, flaming globe of the sun they raced, the initial momentum of Aamon's ship, at the time he had been

struck, swervingly diverted toward the sun's incandescent mass. He had no power to change the course. The end was inexorable.

So fast were the five ships moving through space that soon the ships of the fleet commenced to feel the tremendous drag of the sun's immense attraction. Aamon's fall was accelerating. He and his faithless crew were consigned to a flaming hell which would consume them long before they ever reached it.

They were to die a horrible, lingering death of suffocating heat, watching tormentedly the sunward side of their space ship grow red, then white-hot, before they perished miserably. Something of this inevitable doom must have impressed itself on Aamon, for in the middle of the funeral cortege the cosmic coffin with its living and doomed cargo burst suddenly into a bright flash of light.

Where a slow-moving dot had rested on the proximity detectors there were now but a few, tiny specks slowly radiating from a central point. Aamon had chosen the easier way. No longer did he stand as a menace to mankind's peace and security in the exodus to the new world.

FORECAST FOR THE NEXT ISSUE

SUB-ATOMIC invasion of Earth! That's the theme of MENACE FROM THE MICROCOSM, a powerful novelette of worlds within worlds, complete in the next issue of THRILLING WONDER STORIES. The story presents a brand-new conception of inter-molecular life, and it's written by one of the leading science fiction authors of the day—JOHN RUSSELL FEARN.

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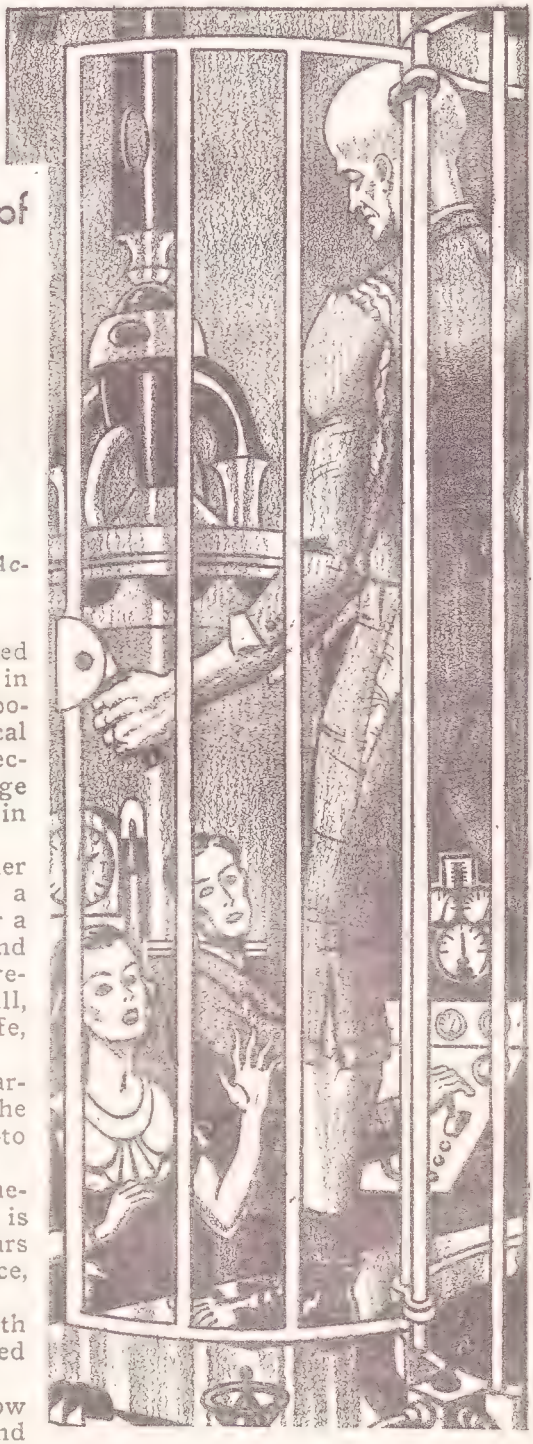


"Do you think I want to be a half-ape?"

THE little rat-faced man looked fearfully at the mechanism in the corner of the lamp-lit laboratory. It was like a tall cylindrical cage of metal bars, connected electrically to the generators, huge vacuum tubes, and other apparatus in the room.

He turned jerkily toward the other two people in the room. One was a serious, lanky young man, the other a girl whose soft face was pale and whose dark eyes held hooded apprehension. These two were Ross Sherill, brilliant young biologist, and his wife, Gail.

The ratlike little man asked fearfully, "Is that the machine? The thing you're going to use to—to change me?"

"That's it, Fraham," said Ross Sherill steadily. "The projector that is going to throw you a million years ahead of the rest of the human race, in evolutionary development."

His serious eyes kindled with scientific enthusiasm as he addressed the wizened little Fraham.

"Evolution is ordinarily a very slow process," he went on, "a physical and mental change which I recently dis-

covered is caused by certain kinds of cosmic radiation that effect slight changes in our bodies, forcing our race ever higher on the road of progress. I've found out how to produce those forces artificially, many times stronger. So when I turn those vastly intensified forces on your body, you will in a few minutes pass through evolutionary changes that will take a million years for the rest of the race to pass through naturally."

"Yes, but what'll I change into?" cried Fraham. "Suppose I change into something awful, what then?"

"Once I've thrown you ahead in development and observed what the human race will evolve into, I can bring you back to your present status," Sherill told him calmly. "I found a certain cosmic radiation that *reverses* evolutionary change, and I'll use that on you."

The lanky young scientist took a packet of bills from his pocket.

"Here's the thousand dollars I agreed to give you for submitting to the experiment. You'll get it when we're done."

FRAHAM stiffened at sight of the money, and an ugly gleam came into his slitted eyes.

"I might add that you'll get the money *only* by undergoing the experiment," Sherill added pleasantly. "I have a pistol in my pocket and if you try anything, I'll shoot. Well, what about it—are you willing to undergo the experiment?"

Fraham's face was beaded with perspiration, and his eyes rolled from the money to the bulky, enigmatic mechanism.

He finally spoke, hoarsely. "I've got to do it, and you know it—you know the police are hot after me and that I need that grand to get out of the country. But remember," he added desperately, "you promised to bring me back so I'll be just like I am now!"

"I will—you'll be out of here in an hour," Ross Sherill told him eagerly. "Step inside the projector."

As Fraham slowly obeyed, entering the cylindrical cage with steps weighted by dread, Gail Sherill laid a trembling hand on her husband's arm. Her dark eyes held fear. "Ross," she said, "I'm afraid of this experiment. I wish you'd give it up."

"Don't bother me now, dear, please," the tense young scientist begged.

He was turning switches, shifting controls. The generators around the room broke into humming life, the great tubes silently lit to a violet glow, transformers sprayed a crackling brush.

Sherill, his hand on the final switch, regarded the terrified little man inside the projector.

"Just stand steady, Fraham," he said. "It will take only fifteen minutes of exposure to the force."

He flung the switch. Brilliant white light broke from the vertical bars of the projector, a blinding cascade of radiation that hid from sight the trembling man inside. The evolution accelerating force was playing upon that man's body, millions of times more powerful than such forces had ever played upon a human being before.

Ross Sherill watched tensely, his hand on the switch. Behind him, Gail watched too, her slim figure rigid with fear of the unknown. What was going on inside that glowing halo? What tremendous changes were taking place in Fraham as the awful cosmic forces flung him through thousands of years of future development each minute?

It was ghastly, unholy, the fear-ridden girl told herself, this artificial short-cut on the road of slow evolution! Her husband was violating the basic laws of the universe itself in thus hurling a human being a million years past his fellows in development. Why had she ever let him do it?

Sherill counted the minutes beneath his breath. "Fourteen—*fifteen!*" He threw the switch open.

The blinding glow of radiation died, and they stared, petrified, at the man inside the cylindrical cage. The wizened, rat-faced little criminal had vanished and in his place stood a man of superhuman, terrible aspect.

His huge form was bursting from Fraham's clothes. For this man was

almost seven feet tall, with colossal shoulders tapering down into a lean, perfect body of tremendous strength. A body that was as much superior to the ordinary human form as man is to the ape.

But the face! It was godlike in terrible beauty, the features perfectly regular, the mouth a straight, merciless line, the eyes enormous glowing ones through which looked a cold, vast mind whose shock was felt tangibly. The head was quite hairless.

"My God!" cried Ross Sherill, staring in amazement at this superhuman figure. "Fraham, changed—"

"Ross, change him back!" cried Gail, clutching her husband's arm in terror. "I'm afraid!"

Too late for that! Fraham, or the godlike man who had been Fraham, was stepping out of the projector. His glowing eyes fastened on Sherill and the dazed young scientist felt those eyes reading the depths of his mind like an open book. That inhuman gaze swung to Gail's pale face, and she flinched in horror from it.

THEN the transformed Fraham's coldly beautiful face turned back to Sherill. He spoke in an icy, level voice.

"To think it was you, a savage semi-animal, who developed *me!*"

"F r a h a m!" said Ross Sherill hoarsely. "You did change—into the kind of man all men will be in a million years."

He went on with desperate hope.

"All right, now that I've seen what the course of future evolution will bring forth, I'll bring you back to your former state. Step back into the projector."

The creature before them laughed! A cold, terrifying and mirthless laughter.

"You amuse me," he told Sherill. "Do you think that I would let you change me back now into what I was, into a dim-minded, shriveled half-ape like yourself? No, I stay as I am, and with my brain I can bring all your witless race under my rule, easily."

"Ross," Gail cried desperately to her husband, "he'll do it if you let him stay like this. You *must* change him back!"

Ross Sherill suddenly produced the pistol in his pocket and levelled it at the godlike Fraham's heart.

"Back into the projector, Fraham, or I'll shoot!" he cried. "I don't intend to let my experiment release a super-minded monster on the world."

The superman before him laughed again.

"You think to match wills with me? Throw that weapon out of the window."

His glowing eyes were riveted on Ross Sherill's as he uttered the command. As those supernal eyes bored into his soul, the young biologist felt himself losing control of his own body.

He tried to pull the trigger and couldn't. His muscles were obeying, not his own mind, but the hypnotic command of the creature before him. Resistless, his hand went up, and flung the pistol out of the open window.

Fraham went on contemptuously in that eerie, cold voice.

"You begin to see how helpless you are to resist me. Just as helpless will all men be, when I appear in their cities and order them to submit to my rule."

His glowing eyes flashed. "I may have to destroy many of them before they learn my power. But it will be easy. My mind can devise weapons against which your race will be powerless to resist. I will build the first of those weapons now!"

As Sherill and his wife watched, the superman moved swiftly about the laboratory, picking up some ebonite rods, two copper discs, a small piece of bismuth and other odd objects.

They saw the transformed Fraham deftly, quickly, join these things together into a tripodlike instrument, crowned by the two discs. Ross Sherill realized in horror that it was some awful weapon of the future designed to be used upon present day humanity. The lanky young, scientist crouched, leaped for Fraham's throat!

Fraham whirled, and the hypnotic

command of those terrible eyes froze Sherill halfway across the room.

"You will remain in this room, you two," commanded the superman, "while I test my new weapon outside. I can use you—as subjects to test other weapons upon."

Without another look at them he strode out of the room with his curious weapon. Looking numbly out through the window into the moonlight, they could see his huge figure striding up the slope of the hill behind the old country house.

They saw him stop up there on the crest, where he seemed to be setting up and adjusting the tripodlike thing.

Ross Sherill threw himself toward the door.

"I'll get the pistol I threw outside!" he cried to his wife. "That monster's got to be killed at once or he'll destroy the world."

He reached the door—and stopped. He could go no further; his muscles were obeying the hypnotic command of the superhuman Fraham, and not his own will. Sherill concentrated strongly, but could not get through that door. Neither could Gail, when she tried.

"Ross, we can't get out!" she sobbed. "We—"

"We've got to!" cried the young scientist wildly. "If we don't, I'll be responsible for the havoc that creature will wreak on Earth." Then he pointed through the window and cried, "Look, he's trying that devilish weapon now!"

Up there on the crest of the moonlit hill they could see the huge figure of the superhuman Fraham bending over his tripod instrument. They glimpsed a swift, terrific flash of white fire or force that drove out into the moonlight from the thing.

They saw the monstrous superman straighten and peer into the silver night as though to see the effect of that tremendous bolt as it struck somewhere far away.

"WE can't stop him!" Gail was exclaiming, her eyes wide with dazing horror. "We're like children against a brain like that, unable to oppose our minds for a minute against his."

Like a bomb exploding in his brain, an idea burst blindingly upon Ross Sherill.

"We can't oppose his mind now, no," he cried, "but what if I throw *myself* forward a million years in development with the projector, also? Then I'd have a mind as vast and powerful as his—I could fight him!"

He leaped instantly toward the cylindrical cage.

"I'm going to do it; Gail! It will only take fifteen minutes for the force to throw me ahead, and I don't think he'll return before then."

Gail clung to his arm, crying. "No, Ross, don't!" she pleaded. "You'll become a monster like him."

"I won't!" Sherill told her desperately. "Fraham was of a predatory, criminal cast of mind, and that is why even after he had developed so tremendously, he still had in mind only the desire to dominate and prey on the world. But I want only to destroy the menace of Fraham, and when I've done so I'll re-enter the projector and you can use the reversing force to bring me back."

Before the terrified girl could protest further, he had entered the mechanism.

"Throw the switch, Gail!" he commanded urgently. "There's little time."

The girl's hand numbly closed the switch. Inside the cage of bars, Ross Sherill was almost blinded by the terrific burst of glowing force from about him. As that awful flood of tingling force saturated every atom in him, he felt hurled through abysses incredible, fathomless and staggering. He felt his mind and body changing, expanding, unfolding, with each passing minute.

Vast new vistas of thought opened out in his mind, things that had before seemed complex and obscure became crystal clear to him. He felt a superhuman enhancement of his powers of reason. He knew he could solve problems in a moment that would take an ordinary man months or years. And as his body changed

and grew, he felt a boundless physical vigor he had never felt before.

His emotions were withering and dwindling, and a cold logic was now dominant in his mind. He was becoming, he knew, the kind of man all men would become in a million years. And it seemed to him now that in changing from his former cramped body and mind, he was stepping from an animal state into one of full humanity.

The glow of force died about him as the switch was opened, and he could look out now into the laboratory. Before him, staring wildly at him, was a girl. He felt a repulsion at sight of her. This savage, semi-ape, female thing, so undeveloped of mind and body, had he really loved *this?* His new mind sickened at the thought.

She was running toward him, crying, "Ross—"

Then she stopped, and he saw horror and fear deepen in her eyes as she met his own gaze.

"You're not Ross at all," she whispered. "You've changed, like Fraham. I'm afraid of you!"

She was shrinking back from him in dread. But he paid no attention to her, as he strode out of the cage. Fraham—the other! The enemy whom he must destroy!

His super-sensitive ears could already hear Fraham coming down the hill, returning to the house. But he did not fear the other now—he knew with cold confidence that he was his match.

The haggard, wild-eyed girl also heard now and cried a warning. "Ross, he's coming! Go out and get the pistol if you can—"

"Be silent!" he ordered her.

As her eyes met his commanding gaze she was mute and stricken. In his new mind, Sherill felt only contempt for her ignorant babbling. As though *he* needed a primitive toy like that pistol!

Fraham stepped into the door, a huge figure, as tall and superhuman as himself. And Fraham's glowing eyes saw him and realized in an instant what had happened.

"You—you've changed too!" he cried. "Well, we'll see who's master!"

He swung up the deadly tripodal weapon he carried. The woman screamed.

"Drop that weapon," Ross ordered calmly.

HIS eyes were meeting Fraham's, glowing gaze beating against glowing gaze, a contest of two superminds more deadly than the clash of swords. Fraham was still raising his weapon but more slowly now. Slower and slower his hands moved as upon his brain beat the super-hypnotic command to desist.

Then Fraham's hands stopped, stiffly holding the tripod. He was putting every bit of his own brain's colossal power into the hypnotic gaze with which he was battling the commanding eyes of the transformed Ross Sherill.

The two supermen stood silent, in the room that was utterly still except for the spasmodic sobs of the crouching girl. They were engaged in a terrific battle of minds such as Earth had never held before.

Then almost imperceptibly, the terrible eyes of Fraham wavered the merest trifle. His mind, before it had been projected a million years ahead in development, had been inferior to the scientist's. And now that Sherill's development also had been jumped forward ten thousand centuries, his mind was still inferior, was slowly breaking down before the scientist's will.

Slowly the hands of Fraham lowered. In his eyes was an awful agony of searing hate and fury. Yet he could not keep his mental defenses from crumbling before the other's assault.

"Drop the weapon," repeated Ross Sherill coldly, his godlike face unchanged in calm.

Fraham's fingers relaxed, and the diabolical tripod-weapon rattled to the floor.

"Step into the projector," ordered the transformed scientist, his gaze never flickering.

As he understood the meaning of that command, Fraham's eyes became terrible. Hellfires of furious revolt

flamed in them, a surge of terrific mental resistance.

But Sherill's commanding gaze held steady, beating the other down again with hypnotic command. A hoarse, strangled sound bursting from his lips, the huge figure of Fraham moved stiffly across the laboratory and into the tall cage of the projector.

Sherill, still holding the other with his eyes, followed. His hand found the switch of the evolution reversing force and snapped it shut. Blue radiation burgeoned from the bars, wrapping Fraham's great form in a shroud of azure light.

Ross Sherill watched, immobile, as the projector hummed for minute after minute. The crouching girl was staring, stunned, at the cold awesome beauty of his inhuman face.

Then Sherill flung open the switch. The blue force ceased. And there in the projector stood Fraham—not the transformed, mighty superman, but the wizened, rat-faced little criminal.

He staggered out, dazedly, wildly.

"I— I—" he faltered, and sank into a dead faint on the floor.

Sherill felt a touch on his sleeve. It was the girl, that savage, atavistic female thing, looking up into his face.

"Ross, you conquered him—you brought him back and kept him from destroying the world!" she cried. "Now enter the projector yourself. Let me bring you back to the man you were, my husband."

Bring him back? Drag him back across a million years of development to become a semi-ape like herself, to become again cramped of mind and body, an unclean primitive animal?

No, every thought in Sherill's brain revolted at the idea. He wouldn't give up this tremendous power of brain and body, this super-manhood he'd attained. He couldn't!

The girl seemed to read his thoughts.

"You promised, Ross," she pleaded.

He shook her off coldly. What had he to do with this savage creature? Outside lay a world that only his great brain could put in order, a world waiting for him to be its master.

THERE was much for him to do in that world, a race to be forced into new, cleaner ways of living, war and greed and trickery to be stamped out. He could do all that—

"*Ross!*"

Somehow that cry of heartbreak made him stop at the door. Something in his inmost fibers, something still strangely bound to this savage creature, was stopped and held by it.

"Ross, it's Gail—Gail!" she was crying to him. "You must enter the projector—for me."

His relentlessly clear mind told him that this woman was seeking to drag him back into a state of savagery like her own, to take away forever his wonderful mind and body.

Yet something deep within him, something not to be controlled even by all his tremendous mental power, made him move, slow step by step, toward the cylindrical cage. At its very edge he hesitated, feeling stronger than ever that sick repulsion at the thought of returning to a half-animal state.

"*Please,* Ross!"

He stepped, very slowly, inside the cage of bars. With a choking sob, the girl threw shut the switch.

When the blue reversing force stopped, it was Ross Sherill—not the transformed, godlike figure of before but again the lanky young scientist—who stepped out of the projector.

He looked bewilderedly from the unconscious figure of Fraham, on the floor, to the girl who was running madly toward him.

"Ross, you've come back!" she cried.

Sherill's face was aghast.

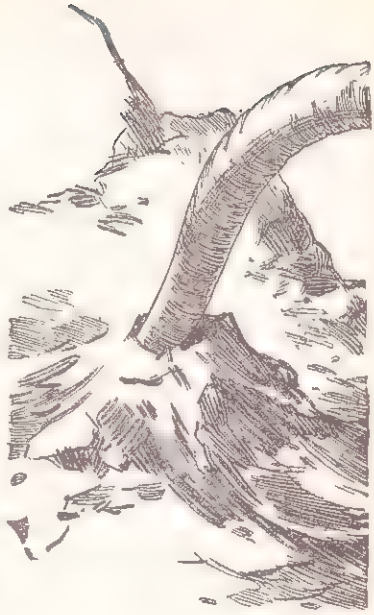
"Why, I remember now—I didn't *want* to come back to you, Gail!" he said. "You looked like an animal to me, looked repulsive, apelike—"

He held her tight.

"God, what an awful thing that projector almost released on the world," he whispered. "I'm going to destroy it, and never build another. Whatever power has decreed the slow rate of human evolution knows better than we men—knows that if we tried to go too fast upon that evolutionary road, we would only destroy ourselves."

ELIXIR of DOOM

An Exciting, Sensational Drama of the Little Worlds That No Man Can See!



A Complete Novelette

By RAY CUMMINGS

Author of "Around the Universe," "Trapped in Eternity," etc.

CHAPTER I

The Flower Box

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"Queer," the radio man said, "I can't get a word out of Somers and Alden."

Pontoon 4 lay glistening in the moonlight. A little emergency landing field, fifty by a hundred and fifty feet. A metal raft, raised on its pontoons, alone here in the Atlantic. The moonlight gleamed on its flat metal expanse.

At one end was a small metal shed —the supply house. At the other, close against the low-railed side of the raft, stood the little cottage where the pontoon-keepers lived. There were two of them—two young Americans: Roy Somers and George Alden.

The cottage was a single-story structure entirely of metal—silver-glistening alumite. This night of June 20th, 1945, was calm. The sea was placid. The officers and passengers of the distressed air-liner gazed down at the somnolent empty pontoon. Its beacon lights were burning. The windows of the little cottage glowed with yellow illumination from within.

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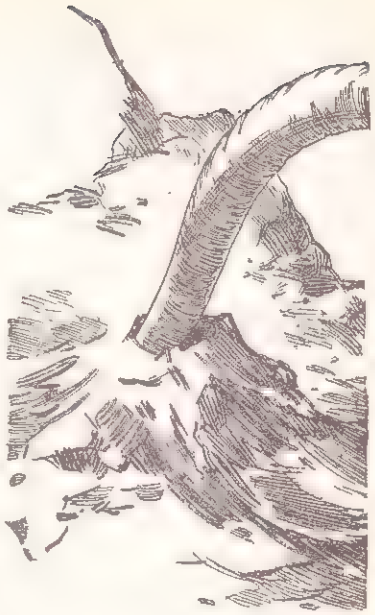

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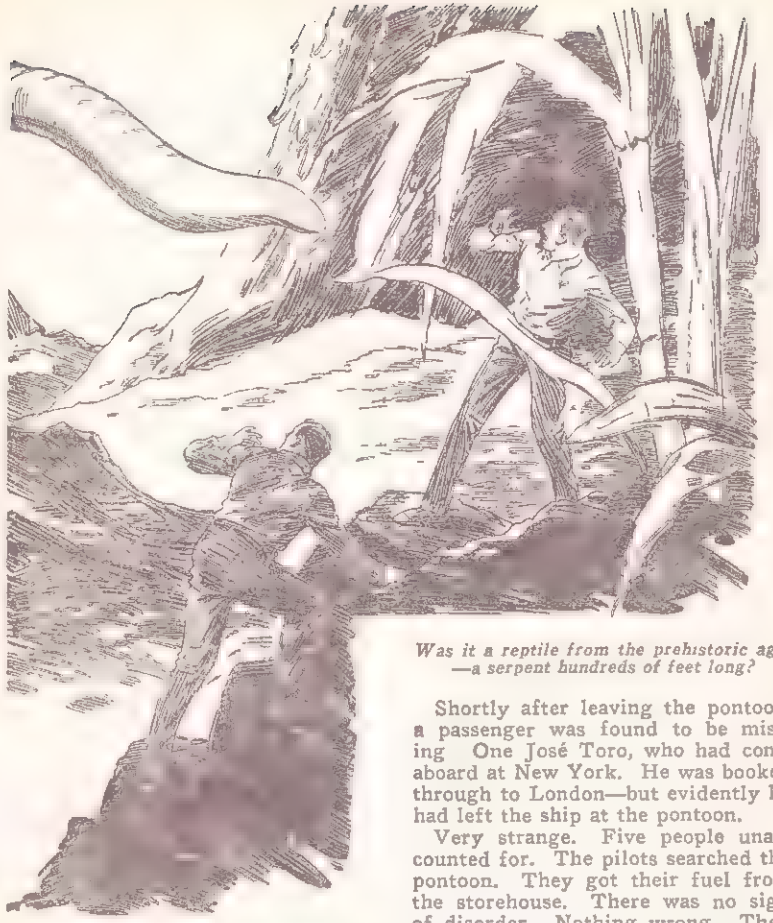

Was it a reptile from the prehistoric ages —a serpent hundreds of feet long?

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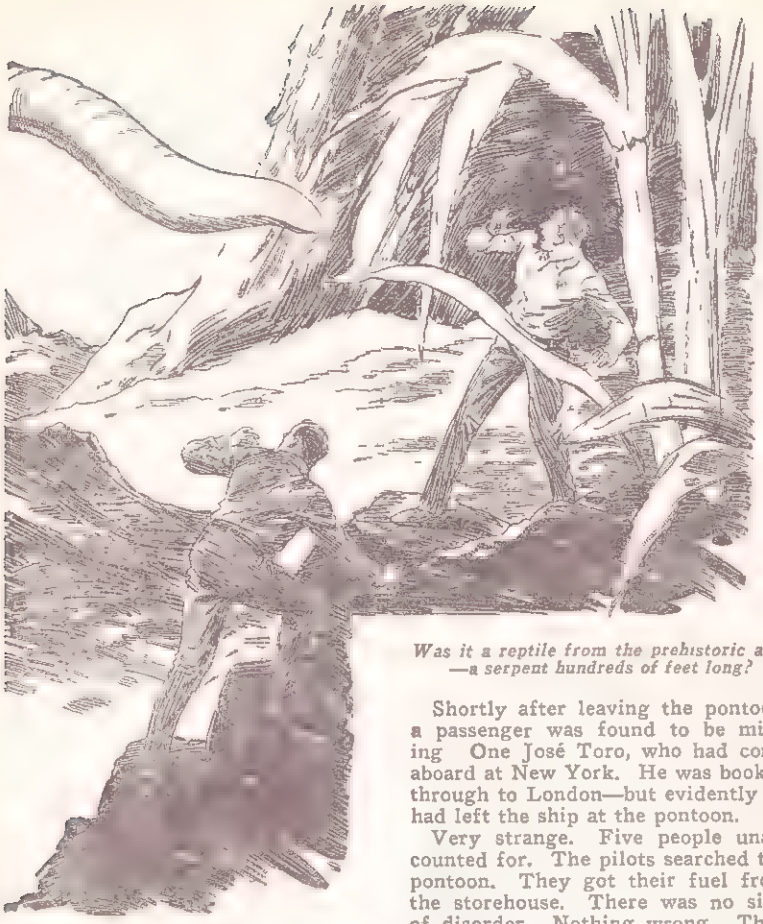
An hour ago, nothing had been wrong here. The London-bound flyer had brought old Professor Alden and his daughter Anne from New York. They were George Alden's father and sister who were to spend a few days on the pontoon visiting him. And the chief pilot of that other plane had reported something else.

Shortly after leaving the pontoon, a passenger was found to be missing One José Toro, who had come aboard at New York. He was booked through to London—but evidently he had left the ship at the pontoon.

Very strange. Five people unaccounted for. The pilots searched the pontoon. They got their fuel from the storehouse. There was no sign of disorder. Nothing wrong. They searched the little metal cottage. Its door had a smashed lock. Nothing else was wrong. The few small interior rooms showed no signs of violence. The luggage of Professor Alden and his daughter stood as mute evidence that the guests had arrived.

The officers of the mail plane reported the condition of Pontoon 4 by radio to New York and to London; and in ten minutes, they departed.

Alden Join in a Perilous Manhunt!



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When they were gone, Pontoon 4 still lay silent and deserted. Drama had been here—tragedy doubtless—but it was over now.

But was it? On the floor of the kitchen, under the low southern window, stood a little flower box. It was a box only a foot wide, two feet long, and hardly six inches deep. Soil was in it. A geranium flowered at its center. It seemed to have been neglected. Was only recently watered.

Nothing of tragedy and drama going on here now? No sign of life here on this deserted metal raft? Here in the flower box a little sign of life showed: an ant, in one corner, wandered disconsolately over the dirt, looking for food. But what of that? Anyone, here now staring at the little flower box, would have concluded that there was nothing to see!

Fatuous reasoning! Who ever thinks of the amazing realms of smallness always under our eyes, teeming always with drama and tragedy?

This little flower box, for instance. . . .

AN hour and a half before the distressed westbound flyer landed at Pontoon 4 and found it deserted, Roy Somers sat with George Alden in the kitchen of their metal house. Alden had just come from his radio instrument in the adjoining room.

"The eastbound plane is landing here," Alden said. "Roy, what do you think—father and Anne coming to spend a day or two!" His face was flushed, his dark eyes sparkled.

The big blond-haired Somers was excited. "Good Lord, what news! Your father and Anne—"

Somers could think only of Anne. Coming here now. Anne, who through all the lonely days and nights was so constantly in his thoughts.

"In ten or fifteen minutes," Alden said. "What a surprise! Get busy, Roy — got to get this place slicked up."

The plane from New York landed swiftly, discharged Professor Alden and Anne; and quickly departed. To Somers it was like a dream, having Anne here.

He clung to her hands. A small, slim, dark-haired girl; her face, like his, was flushed.

"Roy—you're hurting my hands—"

He released her hands in confusion, and turned to her father. Professor Alden was a small, frail, grey-haired man in his sixties—thin and wiry, like his son George. Somers picked up the suitcases; but there was one small satchel which the professor insisted on carrying himself.

"I'll tell you about it later," he said. "A discovery of mine."

Anne began cooking supper. The professor and his son crossed the raft to inspect the supply house. Somers joined them. But after a minute or two, he wanted to be back with Anne. He left them unceremoniously, recrossed the metal field in the moonlight and approached the little metal cottage.

The door was closed. Strange. He had left it open just a few moments before. Then he was stricken by the sound of a voice. Not Anne's voice.

"And I am here. I want to be with you."

The voice of José Toro. Somers recognized its suave, Spanish accent. He had met this Toro. A young Latin-American chemist who, in New York, was Professor Alden's assistant. Somers had never liked him. For one thing, he was far too attentive to Anne.

"But, José, I thought you were on the plane—going on to London—"

"But I got off. There is something—"

A sudden jealousy had made Somers pause by the door. There was a small hallway inside, beyond which was the kitchen. Anne and Toro evidently were there. The voices were muffled by the closed metal door, but still they were plainly audible.

"José—" The girl obviously was startled. "José—let me go!"

Anne was almost screaming with terror. The house had several windows, all of which were open. Somers leaped for one of them. The heavy metal hurricane blind came snapping down in his face. And all the others slid closed simultaneously — all of

them electrically operated from a switch inside the house.

And there was Toro's muffled voice: "Stop fighting, you little fool! *Dios!* I do not want to hurt you—"

Back at the door, Somers frantically pounded, lunging against it; but it resisted all his efforts. And the metal window blinds were the same. The little house was impregnable.

Mingled with Anne's screams of protest, again came Toro's voice: "Adventure for you and me, eh, *niña?* No one can catch us now!"

To the raging Somers the voice seemed to have a new quality. Softer. Dimmer.

Behind Somers, young Alden and the professor came dashing up, breathless.

"That fellow Toro," Somers gasped. "Here — inside here, with Anne—" The voices inside were steadily growing fainter. "Get a crowbar, George! We'll break the door—"

It seemed an eternity while they waited, and Somers raged and plunged at the resisting door. Then, within a minute, young Alden came rushing back with the heavy iron bar.

The voices inside were very much dimmer now — queerly far away in sound. But they could not escape from the sealed metal house. Somers thought that, triumphantly, as he seized the crowbar and bashed in the door lock with a single blow.

They rushed inside. It seemed to Somers that just then he heard Anne's faint terrified cries. But the place was empty!

Somers dashed through the rooms. "Anne," he called, "where are you?" He dashed from one little room to the other. Searching frantically.

The sealed house was empty!

IN the kitchen, the trembling Professor Alden straightened from the floor. His small satchel was in his hand. He set it on the table. It was open. Somers saw rows of tiny metal vials, some red, some white.

"He has stolen some of my drugs—my great discovery—" the professor said.

Somers and Alden stood gasping, listening. Amazing, diabolical plot of this José Toro. Amazing thing of science, this which now the professor was so vehemently telling.

As the professor's assistant, Toro had helped for the past two years in the old man's chemical researches. Revolutionary research, successfully ending with an amazing discovery. A drug to shrink every tiny atom of the human body cells. To reduce in size every atom of any living organism. Uniform dwindling, so that the shape, the identity of the complex cell agglomerations remained unchanged—and only the bulk was altered.

The professor gasped out his astounding secret as with trembling fingers he searched his satchel of vials. A drug for reducing the mass of a living organism. And a drug which was its opposite: to increase the mass —increase the bulk.

Incredible thing. Somers stood confused. Incredible? Yet it explained this disappearance of Anne and Toro. Incredible fantasy? Yet here it was! Somers' mind tried to encompass it. Anne and the villainous Toro had been here, but now they were gone!

"But they're not gone!" Professor Alden was saying. "They're right here, of course. Gone from us, in size —but right here—somewhere. We'll have to take the drug. Make ourselves small—find them—somewhere here—" The professor's hands shook as he gripped his little vials. "Roy—George, that's what Anne and I came to tell you. I thought we might make an experiment here. I've never yet tried this with a human. Only with insects—"

He held one of the red, and one of the white vials. "The red—for dwindling. We must hurry. They'll be gone so far into smallness—"

He suddenly checked himself. Somers saw an expression of horror sweep his face. On the floor there was a sound of scratching. The rasp and scuttling of insect feet, unnaturally loud.

For an instant the three men stood chilled with horror. They saw the thing now — an oblong black thing down on the floor of the room, over

by the window. The bright light from the overhead electric bulb illumined it clearly.

An ant, six inches ong! It stood belligerent on its bent legs.

The professor's voice broke the tense silence. "He—Toro—must have dropped a pellet of the enlarging drug! This ant—licking at it—don't you realize?"

It seemed to Somers that his heart stopped beating. The ant was visibly enlarging, swifter always, as though every moment its rate of growth was accelerating. Its multiple eyes glared. It reared erect.

"Roy! Kill it!" The old professor was terrified into a panic of confusion.

The thing eluded them. Long, glistening, black shape, pinched in the middle like an hour-glass. It disappeared through the broken outer door —out to the moonlit expanse of the pontoon.

"Roy—my God, Roy—George!"

Somers and young Alden leaped past the white-faced old man. At the outer doorway all three paused. The professor gasped.

"We've got to kill it! Can't let it swim away—escape— It will devastate the world!"

Out in the moonlight, near the center of the glistening metal landing field, the hideous thing stood poised. Only an ant! Somers stood with cold horror clutching at his heart. The damnable thing was growing larger. . . . What would its size in an hour be? Swimming the ocean—reaching shore. A monster, with no limit to its growth—perhaps. . . .

Again the ant reared itself erect. Its eyes glowed phosphorescent in the moonlight. And then it dropped horizontally. Belligerent with the realization of its size, it came scuttling forward!

CHAPTER II

The Fight with the Ant

TO Somers, the brief terrifying combat was a fantasy of horror. He was aware of the hideous thing advancing. Enormous insect now. It advanced, lusting to seize these upright enemies who stood regarding it.

Somers heard the professor give a terrified cry and dart sideward. But young Alden jumped forward. The ant reared to meet him. They grappled; and Alden toppled backward; fell, with the ant down upon him.

Somers reached for the heavy iron crowbar with which he had bashed in the cottage door. He seized it; leaped forward just as young Alden fell.

And Somers swung the iron bar. It struck the huge black-shelled body. There was a sickening, mashing crack, a noisome stench of sticky white ooze. The back of the giant ant was broken; its pinched middle sagged; its whole mangled length writhed.

With his senses reeling, Somers stooped and jerked the fallen young Alden away.

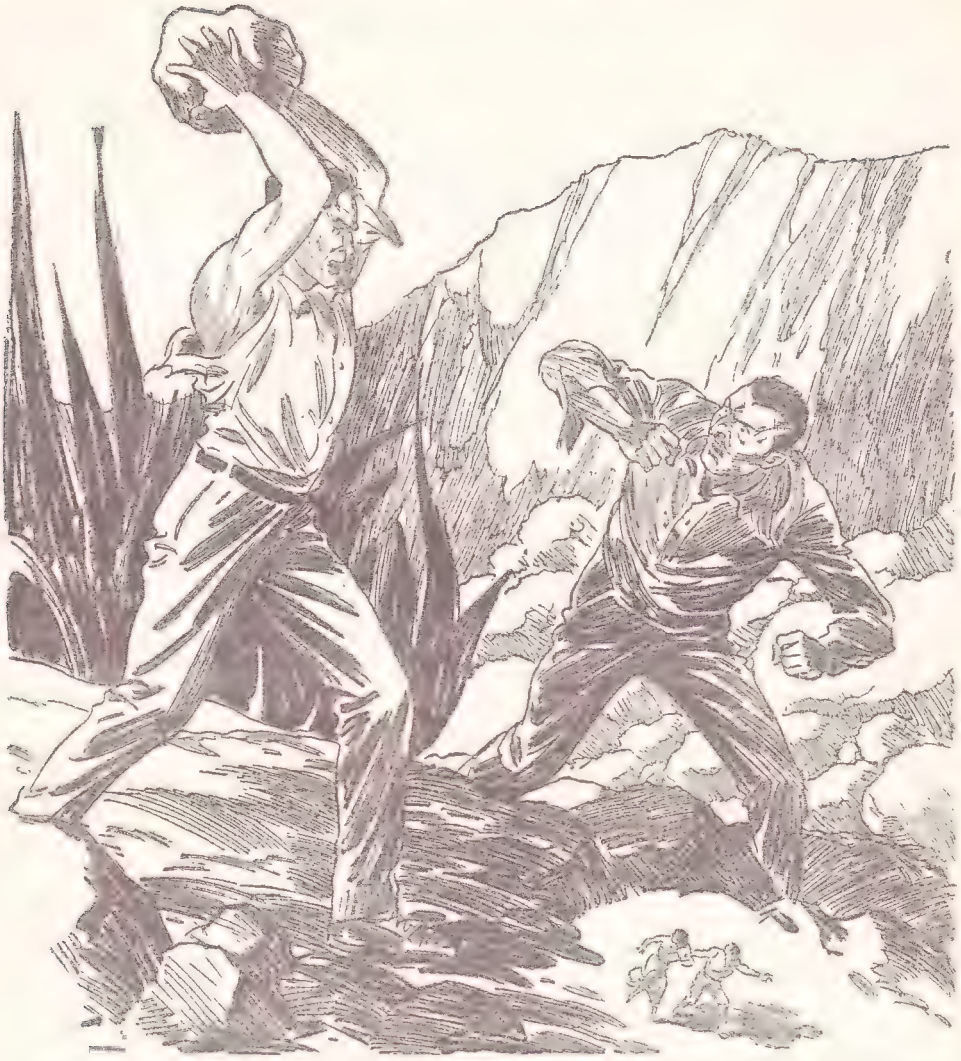
The insect lay writhing as though in a death agony. Young Alden had rolled away and was climbing to his feet. Somers had dropped the iron bar. He turned and picked it up to strike again.

Too late! Amazing strength of this ant — strongest living thing of its size in all the world! It reared its mashed and mangled body. It seemed gigantically to leap with its broken legs. Somers' head reeled; he was barely aware of what was happening. He saw Professor Alden standing nearby — the huge, mangled insect leaping upon the old man — seizing him—bearing him away!

Somers and young Alden all at once found themselves futilely, despairingly in pursuit. The giant ant held the old man's body's aloft, and with it, scuttled and lurched across the moonlit metal surface. The professor screamed—a brief scream of agony.

Somers flung the bar. It struck the ant; mashed it again. Doubtless now the thing was dying, or dead. But the momentum of its huge body and the blow of the bar slid it forward. The low guard rail of the pontoon was near at hand.

The noisome, gigantic mass of shell



Five hundred feet above, Somers heaved the boulder down full at Toro's head

and pulp, still gripping its victim, slid and crashed through the guard rail; vanished over the edge. There was a drop of thirty feet to the placid moonlit sea. A silent interval of horror; then one final splash.

"Tough, George!" Somers murmured. "He's done for. We've forgotten Anne— Got to do something!"

They turned and ran. To Somers came the irrational thought that now, in the kitchen, they would seize this damnable José Toro. . . . But sight of the empty room brought Somers to his senses. How could he seize Toro, and rescue Anne? Yet they were here, somewhere. Frantically, he and Alden poked about the little room.

But there was nothing to see; and only silence responded to their frantic calls. Silence—and the tramp of their own footsteps; the grind as they shifted chairs and tables, and the faint lap of the calm ocean against the walls of the pontoon.

A sudden thought struck Somers which turned him cold with horror. He gripped his companion.

"My God, George — we can't do this! We'll trample them if they're here—small—under our feet—"

They stood transfixed, almost afraid

to move. Somers tried to reason what must have happened.

This José Toro, with his unwelcome attentions to Anne . . . Toro had known Professor Alden's secret of the drugs. Toro had left the plane, hidden himself on the pontoon. Watching his chance, he had got into the house, stolen the drugs and the girl —taken her into the realm of smallness.

But where were they now? What part of the room? Alden was tremblingly opening the satchel of drugs.

"Two vials missing—it looks like that," he said. "These others — red and white—father said the red ones for smallness, didn't he?"

Somers remembered it. Each seized two of the vials. Alden locked the satchel again. Somers opened his small red bottle. A score of tiny red pellets were inside. But how many were they to take?

THEY could only guess. One perhaps, for normal shrinkage. They decided to take only one each, at first. And add others later.

But as they became small, in which part of the kitchen would they search? Somers' mind tried to envisage the coming experience, and it set him gasping. Why, to a human, tiny in size, this kitchen would be expanded into a gigantic realm. One might run across the floor, and be minutes reaching the opposite wall. Minutes? Why, if one were small enough, it might be a day's journey!

A vast realm of smallness here, with Toro and Anne wandering in it!

Then Somers thought of something else. Toro must have dropped a pellet of the enlarging drug. That ant had eaten some of it. . . . The ant—what was an ant doing in this metal kitchen—on the metal pontoon in the middle of the Atlantic?

The little flower box!

Somers cried, "I know where they may have gone—"

Alden knelt with him on the floor, beside the flower box The overhead light shone strong upon it. "Look, Roy! Look!" Alden murmured.

Amazing sight! Down there, on the caked dirt, half hidden by the tiny fuzz of growth, two little figures were plainly visible. Toro—and Anne! He was carrying her inert body in his arms!

Tiny human figures. A quarter of an inch high—no more! Toro carrying Anne. Struggling laboriously through the growth of grass blades.

Dwindling figures! Already they were smaller than a moment before. The grass, far taller than Toro's head, almost hid them. A vague instinct made Somers reach down. But he checked himself. Powerless! How could he seize that tiny human form, no bigger than an ant? His descending hand suddenly seemed monstrous; his thumb and forefinger were incapable of grasping the minute figures.

Breathlessly he and Alden crouched, stared down. Toro's threading advance had moved the grass blades, but now he was too small for that. He staggered with Anne's body, moving between the blades without touching them. Was Anne dead? Somers could not think so, for the fleeing Toro then would have abandoned her. She had fainted, probably.

Then he knew that Anne was not dead. The drugs were effective on living organisms only — and Anne's body now was dwindling equally with her captor's. Toro came out of the grass. So small! A eighth of an inch high? Certainly no more than that! And it seemed that, as Somers bent lower to look, Toro was gazing up, with a waving arm in gesture of defiance.

Almost invisible now. Somers blinked. He heard Alden mutter, "Gone!"

"No. Still there!" Somers was almost sure he saw the tiny moving speck which was Toro—and the pinpoint dot of Anne's blue-white dress. There was a tiny, ridged crack in the caked dirt—smaller than one would make with the scratch of a fingernail. It seemed that the moving specks had dropped into it—vanished.

Somers breathed again. And then he tensed. "George," he murmured, "give me a match. I don't dare look

away. I don't dare!"

Somers continued to stare at the spot. His groping hand took the match from Alden. Then he bent lower and very carefully stuck the match upright into the dirt, a half or three-quarters of an inch from where Anne had disappeared. Carefully he memorized the direction.

Two pellets? Would that dwindle them quickly enough?

He stood with Alden, both of them pale and tense. They held the pellets ready. Somers nodded to Alden and simultaneously they swallowed the drug.

Somers instinctively closed his eyes. He was conscious of an instant sweetish, queerly aromatic taste in his mouth. His senses reeled with a dizzying swoop. . . .

CHAPTER III

Descent into Smallness

SOMERS opened his eyes. The sense of swooping dizziness persisted for a moment, and then clarified into a semblance of normality. He found Alden clinging to him.

"You all right, Roy?"

"Yes. Only I feel a queer tingling sensation."

They were seated together on the kitchen floor, with upraised knees and feet drawn close to their bodies. The little flower box was in front of them. To one side were the legs of the kitchen table, with its level top above their heads. Suddenly they were conscious that the whole scene was in motion!

The walls, the ceiling—everything in the kitchen seemed to be slowly shifting. A queer, steady, crawling change. Slow at first, like the hands of a clock whose movement is barely perceptible. But the change was obvious. Everything was expanding.

And the movement was not only visual. They could feel it now. The floor was crawling outward under them. It drew their feet out, so that their knees shifted down with tiny jerks. They had to hitch themselves into new positions to maintain balance.

Amazing—but after a moment they found the physical strangeness passing.

They stood up, clinging together with the floor shifting under their feet — pulling their feet apart so that every moment they had to take a step inward. And the movement was accelerating.

A weird change was taking place. The table legs were huge. The table top was higher than their heads. The flower box seemed to have doubled its size; and it was no longer near them. Six feet away now, and shifting, crawling steadily further into the expanding distance.

Somers laughed grimly. "Got to keep our wits—not get rattled."

"Yes. I think we'd better go over there."

They started walking. The sensation was strange, but in a moment they got used to it. Six feet to the flower box? They took a few steps. But the box was drawing away. They ran. The wall of the box was at their shoulders when they reached it. A shoulder-high green fence.

They scrambled up over it, tumbled in a heap onto the dirt. Somers saw, some six feet away, a round white pole sticking up, waist-high. The match! Another few feet beyond it would be the place where Anne had gone.

"Mustn't go there yet!" Somers warned. "We're too big. Might trample her."

For a moment they stood, with the waist-high grass blades expanding around them. From the edge of the box, there was a drop of thirty or forty feet. The kitchen tabletop was a monstrous plateau a quarter of a mile away and high in the sky.

Sky? No—the wide expanse of ceiling was still visible as a blur above them—an expanding, fading blur. The electric light bulb up there was a distant spot of white glare.

How long they stood engrossed, Somers did not realize. Then he swung about; his heart pounded with alarm. The white match-stick was a

great pole eighteen or twenty feet high. And it was thirty or forty feet away. Beyond it, very distant over the huge grass fronds, a great towering shape was visible.

Somers moved to where, between the twenty-foot leaves of the grass, he would see that towering shape clearly. A crooked pillar of brown-green, towering up hundreds of feet to a blurred mass of red.

The geranium. A lake of muddy water was at its bottom.

Alden, too, was staring in amazement. And suddenly he was gripping Somers.

"Things moving! My God, you see them?"

The world of the flower box!

Steadily, with a constant acceleration, it was opening up. And there were things alive here, of course. With a trembling hand, Alden was pointing at the expanding tower of the geranium-stem. Things alive on it? They were too far away now to be distinguished clearly. But undoubtedly there were moving, living beings.

A NEW world here. And in it, time was lost—size was lost. Size and distance always changing. Everything growing swiftly gigantic — and moving away into newly created realms of distance.

Then, suddenly, Somers became aware of the match-stick again. It was a gleaming white column now. It towered two hundred feet into the blue-white blur of sky. And it was at least four hundred feet away over the tumbled expanse of dirt and rock!

Somers went cold. The column was receding so fast! Could they reach it?

Somers ran, with his companion floundering after him. Four hundred feet? He knew he had run that far, but still the gigantic white column loomed ahead. Then, panting, almost winded, they reached it; ran around its huge curving side.

"This way," Somers panted. "Toward the geranium!"

The geranium plant was only a blur in the distance with a gleaming radiance shining upon the watery expanse at its base. Somers headed toward it. Another desperate run.

Amazing realms of smallness—miles of rocky cragstrewn waste, ridged and pitted—little gullies opening. They leaped over them. They stumbled, fell —picked themselves up, and ran on.

"Roy—wait—I can't—I'm all out of breath."

Somers stopped. Despair was in his heart. They had waited too long. They could never reach that crack.

Alden came panting up. "Take it easy. We've got to keep together."

"We've got to reach that crack!"

Alden smiled grimly. "If we're too small, we can get larger, you know. No need of all this running," he added.

Both realized that the tumbled area of rocky distance had lost its movement. The drug's action had worn off.

They peered into the half light. Rocks were strewn here now. Gigantic green stalks rose into the sky behind them: the grass blades. Memory came to Somers. This was the place where Toro had stood, carrying Anne!

"Roy—look off there!"

Somers followed the gesture. A mile or two away, the rocky ground suddenly burst upward. An earthquake — a monstrous cataclysm! It shook them, with the rocks shuddering under their feet. A distant upheaval. The ground rising as though by a vast explosion. Yet it was a slow upheaval. A pushing upward. A mountain of earth rising a hundred or two hundred feet into the air, and falling back into a huge tumbled litter of broken rock.

The roar of it came echoing from the distance—a queer, crashing roar, blurred and muffled.

They stood gazing, transfixed. The earth had been pushed upward by a monster coming up from underground. A mile or two away — but still they could see the gigantic shape. Was it a reptile from the prehistoric ages—a monstrous serpent hundreds of feet long?

They could see it slithering, twisting, coiling itself, then lengthening

out, moving away until in a moment it had vanished.

White-faced, Somers turned to his companion. He tried to laugh. The tension of his taut nerves made him feel suddenly hysterical.

"George, do you know what that was?"

"My God, no!"

"A worm, wriggling up through the loose dirt! A worm—in the flower box!"

Astonishing aspects of size! Size to govern one's viewpoint of everything! That monster, only a miserable little worm. Why, here in the vial of drugs in his pocket was his ability to get large again — to change that distant fearsome monster back into a harmless, wriggling little worm!

Somers felt into his pockets to make sure that the vials were safe. He recalled the professor's brief words concerning his drugs; an aura which they flung about the living organism they were altering—an aura like a magnetic field, so that his clothing and the small articles in his pockets were within its influence. Yes, the vials were safe!

He laughed grimly. "We've sure got to keep our wits, George. This can be handled better than we're doing it!"

They were planning to take some of the enlarging drug. And then they saw what was obviously the crack into which Anne and Toro had vanished. It showed now as a yawning shadow across the landscape, about a quarter of a mile away.

"Come on," Somers said. "Easier to walk there than to take any more of the drug."

They started. Somers was pondering what procedure Toro might have followed. One dose of the drug would have worn off now. Had Toro taken more?

THEY came to the crack. Stood awed. It was a long, broken gully. A great ridge of upflung earth was here on the plateau of its upper brink. They stood on the tumbled summit, gazing down.

"If they went down there," Somers said dubiously, "I suppose we ought to climb down."

The descent did not take them long. They stood presently on the gully floor, with the broken walls towering above them. The twilight was deeper here. The sky was a ribbon of grey-blue haze.

Silent, rocky desolation. Their low voices echoed with a queer, muffled quality.

"But where have they gone?" Alden was saying. "Roy, how can we ever find them?"

There were plenty of rocky recesses here where Toro might be hiding. Somers took a step; then checked himself, shuddering. Anne might be here at his feet—tiny as an ant. His gaze swept the stone-littered gully floor.

"George, what's that over there?" he said abruptly.

A little, crumpled white thing ten or fifteen feet away. They went and picked it up. It was a small square of white linen, smelling faintly of perfume. In its corner was a small embroidered "A."

Anne's handkerchief! Had she dropped it here by accident; or was it a trail which she purposely had left for them to follow?

"They were here," Somers said, "that's evident. I believe Anne dropped it purposely. She may have marked this spot here for us—to show that this is where they took the second dose of the drug."

They consulted. Then each took a second red pellet. The sensations were not so confusing this time.

Crawling, shifting of the enlarging landscape. The handkerchief grew monstrous. A great billowing mass of white fabric. Presently it was higher than their heads. The strands were like plaited rope. The billowing folds were ten feet high. Then twenty feet.

"George! Look here!"

Alden was stooping. On the shifting ground which every moment was growing rougher, more broken, there lay a bent black wire. It was several feet long and rapidly enlarging.

One of Anne's hairpins! No mistaking it!

The trail into smallness! Brave little Anne. She had recovered from unconsciousness. She was alert now —leaving a trail for them to follow!

And the deduction of another fact was easy. This monstrous hairpin—in another moment it was longer than Somers' body — still was far smaller than normal compared to the gigantic, crumpled mass of the handkerchief. Anne and Toro had dwindled here. They had taken the second dose of the drug. And they were not moving very far in space, only in size.

"We must keep ourselves here," Somers said, "until this dose is worn off. I doubt if they'd take a third one."

Again he envisioned the enormity of smallness. This was only two pellets. With others, one might go down and down—into infinity. Every tiny widening crack here at his feet held new gigantic realms—if one were small enough to penetrate them. Every tiny grain of rock in this vast valley held a new universe of smallness.

At last the drug again wore off. Somers and Alden stood regarding a great, tumbled white hill. A thing indescribable. Billowing folds of shaggy white rope-strands woven into a titanic fabric. It stood piled into a huge mass fifty feet or so in height, with a spread of an acre or more. A score of entrances to the dark recesses under it were near at hand. Cave-mouth openings—and in one place a yawning oval ten feet high.

Somers and Alden stood peering into the inner darkness. Was the trail lost? There had been no other sign from Anne. Were she and Toro motionless now? Hiding somewhere here?

"I wonder," Somers said. "I just wonder— That cavern in there—"

From the yawning opening ahead there came a muffled scream. A cry of protest. Terror. Defiance!

Anne's voice!

With Alden after him, Somers dashed forward, plunging into the blackness of the cavern.

CHAPTER IV

Combat of Size

IT had seemed dark under the vast, billowy folds of the handkerchief. But when he got inside, Somers was at once aware of light. A reflected sheen from the fabric itself; and a dim effulgence from the rocks. He had noticed it outside in the gully a while ago—a glowing, dim phosphorescence.

Swiftly he and Alden dashed forward, their eyes rapidly becoming accustomed to the softer light. The scream was not repeated.

"Quiet!" Somers murmured. "Got to locate them." He had stopped and stood clutching Alden. They listened, peering.

A glowing labyrinth here. Rounded, shelflike recesses in a dozen places of the cavern walls. And all of it plaited rope strands—so coarse a fabric that they could have climbed its rounded slopes.

No sound. Eerie, phosphorescent darkness. . . .

"Dios! Give me that!"

Toro's voice! The sound of a scuffle. And then they saw Toro and Anne.

Two figures, seemingly of normal height. They were standing about fifty feet away, on a shelflike recess of the fabric wall some fifteen feet above the rocks. Toro, in white shirt and dark trousers; Anne in her pale-blue dress. Both mud-stained, with clothes torn by the journey.

They stood on the ledge, struggling

—the man gripping her, cuffing her.

"*Dios!* Give me that!"

"I won't! Kill me if you like—I won't go any further!"

They had not yet seen their pursuers. Anne quite evidently had seized a vial of the drugs. He was trying to snatch it from her.

The realization came to Somers as he and Alden dashed forward. He was aware that, up there on the ledge, Anne had jerked loose her arm and flung something away. The vial of diminishing drug. It hurtled through the air and fell to the rocky floor.

Toro shouted an oath. And then he saw his oncoming enemies. Somers already had reached the slope which led to the ledge. He leaped upon the rough fabric, climbing it. Toro seemed stricken with astonishment. He stood defiant, thin, dark face livid with rage. His hand darted into his trousers pocket.

The vial of the enlarging drug! Fiendish triumph distorted his face as he swallowed a pellet. And abruptly Somers saw that he was growing. A slim Latin-American. But already he was six feet tall!

Alden was shouting: "After him! Kill him! I'll come with you! Don't let him escape with that drug!"

In that second reason came to the stricken Somers. He fumbled in his pocket. The vial of enlarging drug! Take it quickly! Match this fellow in his growth!

And he swung and shouted at Alden: "You stay here! Take care of Anne! No—both of you get large—not so dangerous — but keep away from me! I'll fight him!"

Somers crammed two pellets into his mouth. A seven-foot Toro, leering with the triumph of his growing bulk, stood up there now. Then he turned, jumped backward down another slope, and vanished.

Somers' head had reeled from the drug, but almost at once the feeling passed. He was aware that the eerie, phosphorescent scene was shrinking. The fabric of ceiling was coming down; the walls closing in.

These closing walls! It startled Somers into a panic of confusion. He stood tense, clinging to the slope of the fabric. But its surface was smoothing; the spaces between the rope-strands were closing on his fingers. He could feel the surface bending under his weight.

And suddenly he slipped, saved himself from falling by a backward leap. He had thought it was a drop of nearly ten feet—but it seemed only two or three. He got his balance; stood wavering. On the dwindling rock-ground across the cavern lay Anne, with her brother holding her. Dwindling figures—already they were no longer than Somers' arm.

THERE was a blur of movement as Toro made a rush through a narrowing side-passage. Somers scrambled after him. The shrinking fabric walls scraped him as he wedged through. Panting, he got outside, turned and beheld the small tunnelway through which he had emerged. It was hardly big enough for his hand.

"*Dios!* Got you now!"

He swung around as the figure of Toro leaped upon him. They grappled. Somers' mind was alert. Above everything he knew he must keep his wits. The shock of Toro's weight made him stagger backward. Purposely he went limp, sagged and fell, pulling his adversary down upon him. And then with a sudden lunge, twisted, and brought himself uppermost.

He found Toro perhaps a foot larger than himself. Stronger, undoubtedly. But both quite evidently had taken two of the pellets. It seemed that there was no relative change in Toro's size. He and Somers were enlarging with equal rapidity.

Somers found himself straddling Toro's chest. The fellow was lunging, squirming, flailing with his fists.

Around him, Somers was aware of the dizzying, swooping scene. All shrinking. Rocky walls of the valley lowering and closing. And almost at his side was a crumpled white handkerchief. He was gripping Toro's throat; and Toro, with his breath shut off, was choking, his eyes bulging.

But the sight of the shrinking handkerchief set Somers shuddering.

It seemed, with that instant glance, that he saw the tiny figure of Alden, carrying Anne—trying to run.

Realization swept Somers. At any instant his leg, or the flailing legs of the prostrate Toro, might mangle those tiny running figures. He cast Toro off. He leaped erect. Stooping, he snatched Toro sideward. Barely in time! It seemed that the handkerchief was almost under Somers' feet.

The double dosage of the drug had confused Somers so that he scarcely thought of combat with his human enemy.

But Toro had lunged to his feet. He stood panting; and then he jumped again upon Somers. They wrestled; fought with wild, scrambling blows. Somers felt the thud of Toro's fist upon his head. Toro's face was close as he panted:

"I can conquer the world with these drugs! I dropped some of it—but I have plenty left—"

"You have to do for me first," Somers retorted.

But his adversary was strong. He was bending Somers backward now, his weight pressing—his dark, saturnine face leering with triumph. Somers felt himself backing against a rocky wall. Incredible, for beyond Toro's shoulder there was another wall advancing.

And Toro saw the danger. He mumbled with startled horror. His grip loosened; he jerked away. Somers, momentarily free, recovered his balance. God! These closing walls! This was no valley in which they were fighting! No more than a narrow rocky trench, a few feet wide and shoulder-high.

Horrified realization swept Somers. In another moment his gigantic bulk would be mangled here between these rocky sides. He saw Toro make a leap and scramble upward. The ditch-walls were pressing; but the upper surface had come down to Somers' waist. He jumped; drew himself up and rolled out. It seemed that the slit of rock was closing like a reptile's mouth, trying to seize his emerging legs.

The upper surface—familiar, undulating dirt and rocky terrain lay spread in the distance. As Somers staggered erect, dizzy with the dwindling scene, again the murderous Toro came at him. . . .

DOWN under the giant folds of the handkerchief, Anne and her brother saw the enlarging form of Toro rush away; and the gigantic Somers after him. Alden was aware of the danger. He lifted Anne.

"Can you walk?"

"I—I guess so. I'm—better now."

"Got to get outside—get away. They'll be too large—might trample us."

An amazing scene encountered them as they ran outside. A combat of giants! They saw the fallen Toro; Somers astride his chest, choking him. Men twenty feet tall. Now thirty feet!

In another moment, Alden realized, these giants would trample the handkerchief. The sweep of one of their legs would presently encompass a hundred feet of this rocky ground.

Anne was limping with a twisted ankle. Alden picked her up, carried her, running to escape.

"I can take the drug now," Anne murmured. "Foolish of me to be afraid of it. Put me down. We'd better take it, George."

He thought so, too. The gigantic trouser legs of Somers and Toro—great swaying pillars rising into the air, lunged back and forth. Dizzying, mammoth blurs in the gloom. The enormous bodies were blotting out the sky.

Suddenly the Titan shapes lifted upward and were gone. Alden and Anne each took a pellet of the drug. The valley closed in on them. They scrambled out to the surface.

The giants were still fighting. There was more light out here, and they were plainly visible. It seemed that now they were fully a mile away. They swayed, locked together. Five hundred feet tall? It seemed so. Then they went down, rolling, lunging. Then up again, staggering with mammoth strides.

And then Anne cried, "Oh, look!

Dear God—look at Roy!"

Somers had been beaten to his knees. Toro's fists were raining blows upon him. Then, suddenly, as though with supreme effort, Somers was erect. One of his arms dangled behind him. The watchers saw that the dangling hand held a boulder. And Somers heaved it aloft and crashed it down full on Toro's head.

There was a breathless moment while Toro stood wavering. The boulder dropped with a great roar to the ground; and Somers staggered back, panting.

A breathless instant. Then the body of Toro fell forward—came toppling, crashing down. For a moment its thousand-foot length writhed and twisted. Then it lay still, with the mammoth figure of Somers bending over it.

CHAPTER V

Tiny Arena

SOMERS bent down, panting, over the fallen body of his antagonist. Toro was dead. No doubt of that; the smashed, weltering head was mute, gruesome evidence. And there was other evidence: in that moment Somers was aware that the motionless dead thing was dwindling. Death had checked the effect of the drug.

He stood now, swaying over Toro. The body had seemed perhaps seven feet long. He saw it shrinking now. The whole rocky terrain was shrinking. Vague distant blurs of monstrous shapes were dwindling, coming closer, taking familiar form. Why, these tremendous green stalks — they were blades of grass! That giant, yellow-white pole—that was the match-stick! Somers hastily retreated. He must keep away from that match-stick. Alden and Anne might so easily be trampled.

Minutes more of the shrinking landscape. And every moment it was more familiar. That great red blur in the sky — that was the geranium blossom. . . .

Somers turned the other way. The great green stalks were thickening around him. Hardly higher than his head now, and he pushed his way through them. Presently he was wading in them, with their tops lower than his waist.

He came to a knee-high parapet with an abyss beyond it and a great blurred vista of open distance. But the blurs off there were taking form. The monstrous blurred spread of surface, off there so high and far away, came down and shrank and showed itself to be the kitchen table.

Somers stood peering over the brink of the flower box. The vastness of the kitchen floor seemed a hundred feet below him. But soon it was fifty—twenty. . . .

He swung over the edge. For a moment he clung, dangling by his hands. A drop of ten feet. He let go. Landed on his feet. The wall of the flower box dwindled to his shoulders.

The action of the drug was wearing off. Somers sat on the open kitchen floor until the movement of the scene had ceased The little flower box was here. Two feet long; a foot wide —six inches deep. He bent anxiously over the small spread of dirt, peering, waiting for Anne and her brother.

They came at last. Tiny figures, enlarging. Shoving through the grass —climbing, as he had climbed, over the side and out of the box. Carefully, he lifted the tiny six-inch figure of Anne and set her on the floor; but the dizzying swoop of his carrying hand left her gasping.

At last they were together again, and all things assumed their normal proportions.

Moonlight streamed in through the open window of the darkened kitchen. The placid summer ocean rippled with silver. Somers sat with Anne beside him. Alden was in the adjoining room, at the radio sender.

"I think," Somers said out of a silence, "that the drugs should be destroyed. Too dangerous. And the flower box—the drugs are in it. Destroy this flower box—"

The girl shuddered. "Yes. Poor father—"

(Concluded on page 128)

Science Questions and Answers

THIS department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited, we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical, also, to promise an immediate answer in every case. However, questions of general interest will receive careful attention.

ORGANIC COMPOUNDS

Editor, Science Questions and Answers:

I was surprised the other day to find that the chemical formulae of cane sugar and milk sugar are the same—$C_{12}H_{22}O_{11}$. This seems a little odd, since they are different in sweetening power. From what little chemistry I've had, I always understood that different substances must have different formulae.

F. B.,
Gloucester, Virginia.

The study of sugars and related compounds belongs in the realm of organic chemistry—the compounds of carbon. The incredibly numerous compounds containing carbon are all due to the latter's remarkable ability to hook up with almost anything in chains, rings, and other formations.

All sugars are basically of the formula given above, but each is put together in a different way, with resulting differences in taste, appearance, and chemical activity. If the 45 atoms in a general sugar molecule were arranged merely by chance, there could be 5,566,000,000,000,000,000 different combinations. Only a few dozen are known, however.

In organic chemistry, the formula above means nothing. It simply indicates the proportions by weight of carbon, hydrogen and oxygen. For a true indication of composition, the organic chemist uses "structural formulae" which show exactly how the molecule is put together. He can show, by the change in position of atoms, why this sugar and that are quite different.

As a typical example, common alcohol has the same formula—C_2H_6O—as methyl ether, which is poisonous. When we look at the chemist's structural formulae, we see how they are different. Alcohol is C_2H_5OH. Methyl ether is CH_3OCH_3. This difference in "hooking up" makes all the difference between a liquid which can be drunk, and one which cannot, besides many other differences. Ed.

THE PHENOMENON OF SLEEP

Editor, Science Questions and Answers:

How is sleeping explained? When our brain sleeps, why do not the heart or lungs do the same?

L. B.,
Brooklyn, N. Y.

The phenomenon of sleep has lately been much clarified. Intensive biochemical research has revealed that there is a rhythm to life. It pulsates, much like a wave. The pulsations are periods of activity and rest. Activity drives all the body's chemical processes in one direction, toward fatigue. This state is characterized by the presence of excess phosphates in the blood. To complete the cycle, the organic organism must have rest. This allows the chemical processes to reverse and prepare for another stretch of activity.

Fortunately, however, nature has provided that our heart and lungs have a different system of rest periods than our brain, muscles and body cells in general. This was necessary because the animal organism cannot survive any extended period of rest for the heart, lungs, and stomach. These organs work and rest—pulsate—very rapidly. After each heartbeat, the heart rests for a fraction of a second. After each breath, the lungs take a short "nap." The total amount of rest in a day's time for the heart is about the same as that we give our bodies when we lie down and sleep. Ed.

CANALS OF MARS

Editor, Science Questions and Answers:

What is all the discussion on the "canals" of Mars about? Isn't it definitely known whether they are there or not? One would think such an easily observed phenomenon would have been settled long ago.

F. L.,
Madison, Wisconsin.

Strange to say, the authenticity of the Martian "canals" has not been proved. In

1877 Shiaparelli, who was admittedly sharp-eyed, announced that he saw fine line markings on Mars, which he called "canali." Unfortunately, that Italian word is far too suggestive when transposed to English. Shiaparelli meant channels, not man-made canals.

Since his time the discussion has waxed furious. Famous astronomers corroborated his discovery. Equally famous ones denied their existence. Lately, it is becoming generally credited that no such regular and numerous markings occur as Shiaparelli and and Lowell claimed to see. Experiments conducted in the laboratory indicate that the human eye and mind have a tendency to connect faint spots and markings by wholly imaginary straight lines.

In the case of viewing Mars in a telescope, the image is very hazy at best. It literally takes a conscious straining of the eye to distinguish even the larger markings. The so-called canals, being at the limit of visibility, may be subjective (imagined) rather than objective (seen). Photography has failed to reveal the mythical canals. But the claim is made, justifiably, that under the best of conditions, the eye is more sensitive than the photographic plate, so there is still no positive evidence on either side.

Perhaps the only sure check on this engrossing question will be when man finds a way to traverse space and explore Mars himself. Ed.

FILTERABLE VIRUSES

Editor, Science Questions and Answers:

I've noticed that the filterable viruses are being called "living liquids," as in the Farley story recently. Science fiction aside, are they truly alive?

O. L. S.,
San Francisco, Calif.

Strictly speaking, the answer is probably no. Filterable viruses seem to be more of the quality of subtle poisons than of living matter. It seems that some diseases, like the "mosaic disease" of the tobacco plant and silkworm jaundice, produce a lethal substance which is able to interfere with the metabolism of healthy tissue.

Unlike cultures of germs, the virus is filterable through the finest of porcelain filters, indicating that it must have a colloidal composition. Whatever the substance is which can reinfect tissue with the disease that produced it, it is not composed of the germs and micro-organisms we know at present. Either its potency is due to incredibly tiny living organisms matched in size by some of the larger molecules, or to super-powerful poisons which in undetectable quantities can poison a mass of protoplasm unthinkably greater in mass.

Measles and scarlatina in man are dis-

(Continued on page 120)

CHARLES ATLAS
"The World's Most Perfectly Developed Man"

If You Had Only 10 Days to Live

Suppose doctors said you had only ten days more to live! What would you give to have another ten YEARS of life? "Anything in the world!" you would say. Unfortunately, it would be too late. NOW, while you have many years more to live, is the time to fortify yourself against later troubles.

CONSTIPATION—
The Plague of the World

Constipation is so common many people do not realize its serious results. If city sewers did not drain out daily, disease would break out everywhere! That begins to happen in your system if chronically constipated. Yet to end Constipation is not difficult if you have no organic ailment.

Nine Out of Ten People Can Be Relieved

I have helped relieve nine out of ten of my clients. My method tones up your entire system. I give life to little-used muscles that in later years would begin to shrivel up. I do not believe in weights, springs or other old-fashioned, dangerous methods. My system of Dynamic Tension is natural, effective. Results are *guaranteed.*

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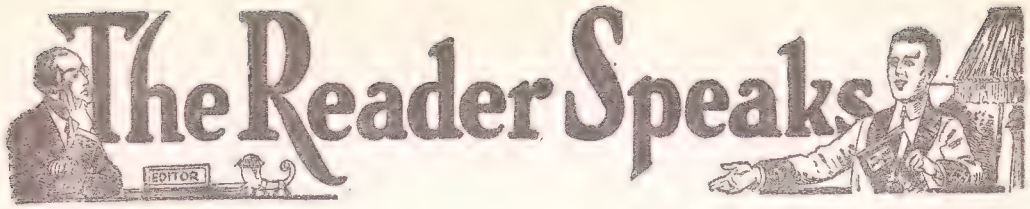

IN this department we shall publish your opinions every month. After all, this is YOUR magazine, and it is edited for YOU. If a story in THRILLING WONDER STORIES fails to click with you, it is up to you to let us know about it. We welcome your letters whether they are complimentary or critical—or contain good old-fashioned brickbats! Write regularly! As many of your letters as possible will be printed below. We cannot undertake to enter into private correspondence.

BINDER ILLUSTRATION LIKED

By Fred C. Miles

Here are orchids for two fine tales in the February, 1937 issue of THRILLING WONDER STORIES: "The World in a Box," by Carl Jacobi, and "The Ice Entity," by Jack Williamson. Though not as good as "The Legion of Space," "The Ice Entity" was a vastly interesting story. Presented in the same issue as Jacobi's stort story, it helped to make the best of the four numbers of the rejuvenated T. W. S.

Was very delighted to see a drawing by Jack Binder in this issue. The yarn it illustrated was the third best in my favor for the month. The cover was excellent. Almost photographic in its realism. Keep up the good work.—New Providence, New Jersey.

J. R. FEARN, THE TOPS

By John V. Baltadonis

Fearn's story, "Brain of Venus," takes the cake for February, as far as I'm concerned. The way it started out, I thought for sure that the ending was obvious; there I was waiting for the introduction of the heroine to marry Captain Brant, when, bango, he gets killed. That in itself stunned me; but, when the second hero of the story got killed . . . . I've got to hand it to Fearn for having enough nerve to write a story having two heroes, and both getting killed.

"Protoplasmic Station," by Paul Ernst, wasn't as good as I had expected it to be. However, it did provide good reading matter. "Invaders From the Outer Suns," by Frank B. Long, Jr., had a novel twist. Williamson's "Ice Entity" was something new.

Wandrei's "Black Fog" looked like just another death cloud story at first. Only this time, instead of a hero and heroine emerging victorious at the end, mankind really is doomed. Quite a surprise twist.

I agree with Ronald Armitage on the subject of cartoons. Why not pick a better subject?—1700 Frankfort Ave., Philadelphia, Penna.

A FIRST LETTER

By John Hartos

Having just finished the February issue of T. W. S. I feel that I must write you in appreciation. Carl Jacobi's story, "World in a Box," is the best story in the issue. The others, too, are good. "Zarnak," by Max Plaisted, is a good idea and a pleasant variation from the fiction content.

The December issue rated pretty highly too. Zagat's "Lanson Screen" and "The Brain-Stealers of Mars" by John W. Campbell, Jr., were among the best in that number.

This is the first letter I have ever written to any magazine.—30 Center Street, Hempstead, New York.

(Readers will be interested to learn that Mr. Campbell has written more stories concerning the interplanetary adventures of his two intrepid space-rovers, Blake and Penton. The first of these will soon be ready for publication. How about other first-letter writers sending in notes to this department?—Ed.)

REQUESTS

By John Chapman

The February T. W. S. is the best of the four issues published up to now. If you keep improving as you have been, you'll soon reach the top.

Fearn's "Brain of Venus" was unusual. Try to obtain more of his stories. Wandrei comes second with "Black Fog." These two authors are about the only ones who really know how to end a story with a wallop. Instead of the routine procedure in which the fair-haired hero saves Earth and lives to win the heroine, etc., etc. Fearn discarded the hackneyed ballyhoo and reversed the situation so that the hero sacrificed himself to save the entire universe. And no heroine, either!

"Judgment Sun" will be the third Eando Binder story you have published since August. By all means keep up that pace. Binder is without doubt one of science fiction's greatest writers, and I'll never be tired of reading his stories.

Some other authors I'd like to see in T. W. S. are Murray Leinster, Nat Schachner, Frank K. Kelly and A. Rowley Hilliard.

The illustrations are great. Marchioni is the king of artists. Keep him and don't bother about securing anyone else unless it would be Paul.—1521 Como Ave., S. E., Minneapolis, Minn.

(There's another Binder novelette for you next month—his best story to date.—Ed.)

OVERSEAS OPINION

By S. Youd

Although I never wrote to the old magazine, I am writing now to welcome the old mag back. It was with mingled feelings that I tore the wrapper off your December issue and saw that Paul was gone. Your cover artist is good, however, and I'd like to see him alternate with Paul.

Your lay-out is good. Especially the forecast for the next issue; how about a "Coming Shortly" feature? I am looking forward to all the stories announced for the next number. The outstanding stories in the December issue were: "The Lanson Screen"—the only good story I've ever read by Zagat—and was it good! "The Brain-Stealers of Mars" — the funniest story I've read in ages—Campbell is a worthy successor to Weinbaum. And, of course, the Weinbaum tale, "Brink of Infinity." Gallun's "Saturn's Ringmaster" was appealing mainly because of the Uranian professor character. Let's have more stories about him.

Would like to see stories by P. S. Miller, Hamilton, Leinster, Keller, Harris, Hilliard, Pragnell, Williamson and Zagat—if he can produce another like "The Lanson Screen."—244 Desborough Road Eastleigh, Hants, England.

NOSEGAYS AND BRICKBATS

By Norm W. Siringer

I was very glad to see the reappearance of your magazine on the newsstands, although there is room for improvement. I found the December issue containing one excellent story, incidentally the best that you have published thus far, Campbell's "Brain Stealers of Mars." Two other yarns, "The Brink of Infinity" and "The Lanson Screen," were very good and took second and third places respectively. The contributions by Hamilton and Cummings made good reading.

The plot of Campbell's story was un-

(Continued on page 116)

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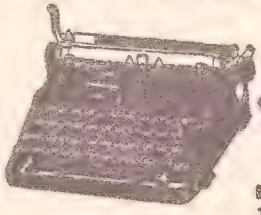

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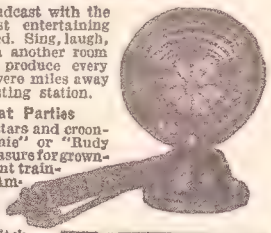

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(Continued from page 115)

usual and new, as was the case with Weinbaum's story. Zagat told an old story with a new twist, while Cummings and Hamilton took hackneyed but interesting plots and filled their stories with exciting adventures. So ended the good half of the magazine. As for the inferior stories, they were: "Earth-Venus 12," by Gabriel Wilson. This story was good once—but long ago. Well written, though, taking sixth place. Echols' story was formula stuff. "Static" was too short and dry.

Now for some general criticisms. You should try to print a serial. A novelette should be at least sixteen pages long. Keep your authors away from the time-worn themes. T. W. S. is only published every other month. I believe that it should be published monthly, or oftener.

And here are bouquets. T. W. S. has brought back many famous old authors to science fiction. Cummings, Merritt, Farley, Kline, Burks—they're all good. The general run of your stories tend to be written in the principle of "story first, then science." This is a wise plan; a story may be dominant in science and have an entirely new conception but it will fail to hold the reader's attention because it is poorly written, and then again a story may be well written and fail to click because the plot is too old. Consequently, your stories cover a larger scope because your requirements as to science content are more tolerant.

My ten favorites are Merritt, Burroughs, Cummings, Farley, Williamson, Burks, Leinster, Coblentz, Verrill, and Hamilton. Six of these men write for you. Keep them!—17710 Franklin Boulevard, Lakewood, Ohio.

WANTS BOOKS ON LIGHT

By James E. Wilhelm

I have been a reader of your magazine for some time and like it very much. I have never written to you before but I need some information.

I have been experimenting for some time with light and its peculiarities. Outside of what few instructions came with what equipment I have I'm still in the dark—no pun intended! I would like to experiment with black light, infra-red and photo electric cells. Also with electricity, especially the more startling and amazing phenomena that can be achieved with the proper preparations.

I would like to know where I can get information and equipment for these experiments.—423 Randolph Ave., Elkins, W. Va.

(Any public library should contain an assortment of books on light in the physics section of their science books. Or you can consult the bibliographies mentioned in any encyclopedia

after articles on light. Won't T. W. S. readers drop Mr. Wilhelm a card if they have any information for him?—Ed.)

SHORT AND SWEET

By Willis Connover, Jr.

Your latest issue of THRILLING WONDER STORIES is excellent! I haven't had much time to do any reading of the current mags; but those I have read —"Black Fog," "Protoplasmic Station," and "World in a Box" are top-notch. I'm eagerly awaiting the next issue.—27 High Street, Cambridge, Maryland.

ILLUSTRATIONS DISLIKED

By Edward Lambrecht

I have just finished reading the February issue of T. W. S. Although your stories are pretty good, I can't go for the illustrations. Paul is the best science fiction artist. Why not have him do most of your illustrations?

Please print more time-traveling and interplanetary stories—they're my favorite variety of science fiction.—4225 Baltimore Avenue, Philadelphia, Penna.

A BIG ORDER

By Frances Robertson

Best artist —Marchioni; best author — Wandrei; best magazine — THRILLING WONDER STORIES. There's my opinion of your s-f magazine! Stories wanted: Professor Jameson yarns. Type wanted: stories of what happens after the end of time; stories of the distant unknown future. Articles wanted: a series of articles on famous scientists.

Departments wanted: a department dealing with higher mathematics, discussing the 4th dimension, etc. Contests wanted: short s-f contest stories. General appeal: a bigger and better magazine, with more stories back west.

Leave New York alone, and come and get acquainted with Oregon. You know what's wanted now. Do we get it? I hope so!—G. D., Rhododendron, Oregon.

T. W. S.'S YOUNGEST READER

By Robert Estopinal

I am perhaps your youngest reader, as I was ten years old the other month. I like your magazine very much and think the interesting stories stimulating to the imagination. So let me offer you my best wishes.

I hope you soon will establish your magazine on a monthly basis. Let me congratulate you on your February issue, for in

(Continued on page 118)

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(Continued from page 117)

the first place the cover is excellent. As a contrast to the past three issues, the figures are lifelike and their faces express varied emotions. In my estimation the best tale in the issue was Fearn's "Brain of Venus." Of the short stories, "World in a Box" is tops! "He Who Masters Time" was also interesting. "Zarnak" is terrible and I wish you'd blow it to atoms. Couldn't you have the artist shanghaied?

But now I have thrown enough brickbats, so how about some friendly suggestions? Would it be possible to enlarge the interesting "Science Questions and Answers?" And how about more of those very interesting questions in "Test Your Science Knowledge?" After reading some of your stories, I found more material for questions that were untouched. "The Reader Speaks" is altogether too short. We fellers like to know what others think of T. W. S. I know all this is a big order to fill, but by all means try to enlarge "Science Questions and Answers." — 109 Fifth Street, S. E., Washington, D. C.

(There are seven questions and answers in this issue. Enough?—Ed.)

"ZARNAK"—???

By Irving L. Koskow

Although the December issue of THRILLING WONDER STORIES is the best of your three issues thus far, there remain some minor imperfections.

First and foremost, take that comic (!) strip, "Zarnak," out! It's not only childish but silly. Please bear in mind that many of your readers are not adolescents and constitute a goodly portion of your circulation. The space wasted on "Zarnak" could be used to advantage in enlarging "The Reader Speaks."

I must congratulate you on the other departments and features. Most noteworthy of these are "Story Behind the Story" and "Scientifacts."

"Brain-Stealers of Mars" was most novel and interesting of all the stories in the issue. There is but one correction I'd like to offer concerning this story. Granted that a type of animal such as described is capable of changing its protoplasm, (given a sufficient amount to work with) how could it possibly reproduce a spacesuit, or bits of metal which are not organic, from organic protoplasm?

"Mutiny on Europa" was a fine tale, on a par with Campbell's yarn.—3415 Fulton Street, Brooklyn, N. Y.

(How many readers like "Zarnak"? There's a furious battle going on about the strip's merits. Come on, Plaisted supporters, let's hear from you. What kind of a plot would you want "Zarnak" to have? Your point about the Campbell story is well taken, but remember that the thushol did not create the space suits—they stole them from the space ship. They could only simulate inorganic substances externally, of course.—Ed.)

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Will trade U. S. precancels, foreign stamps or other stamps for U. S. or foreign stamps. Peter L. Verhagen, East Main Street, Little Chute, Wisc.

Have one model gas engine, complete except for propeller. It has only two flights to its credit. Make your offer. Paul R. Boyd, Tylertown, Mississippi.

I'll exchange foreign stamps with collectors everywhere. There are also postcards and curios to exchange. P. A. Morris, 501 Sylvania Avenue, Fort Worth, Texas.

Swaps: radio parts and tubes for microscope or anything you can name. Elmer Last, General Delivery, Sterling, Illinois.

Have cheer-leader's "36" megaphone, army dispatch carrier and scout uniform. Want a good camera and battery receiver. Bernard Tatelman, 745 11th St., S. E., Washington, D. C.

Send me your stamps and stamp collectings. In return I will send you rare U. S. or foreign coins of equal value. L. C. Bashore, 1004 Cumberland Street, Lebanon, Penna.

Want to swap botanical and entomological specimens of Pennsylvania, other states or foreign countries. B. Feinberg, National Farm School, Farm School, Penna.

Will swap 30" model cruiser for small gas engine (washing machine or model airplane) or what have you? Ace Craft, 4825 Quitman St., Denver, Colorado.

I want maps, cactus plants or what have you. I'll give good things in return. William Cloyd, R. R. 4, Hamilton, Ohio.

I have many foreign stamps to trade. Would like U. S. postmarks, coins and coin-shaped tokens of all kinds. H. W. De Berge, P. O. Box 172, Coconutgrove, Florida.

Send me a 1937 Scott's U. S. catalogue and I will send you corresponding value in mint U. S. stamps, (including 230, 498, 1307, 4033). Leonard A. Petcavage, 612 East Pine Street, Mahanoy City, Penna.

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5.25-17	5.45	1.15
29x5.25-18	5.45	1.15
29x5.25-19	5.45	1.15
30x5.25-20	5.50	1.15
31x5.25-21	5.60	1.15
5.50-17	5.75	1.15
28x5.50-19	5.75	1.15
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SCIENCE QUESTIONS AND ANSWERS

Continued from Page 113)

eases credited to the activity of filterable viruses.

Such poisons which could "grow" almost like microbes in a new host would be on the order of enzymes (ferments), which dissolve and change organic matter and increase at the same time their own amounts. Enzymes are purely chemical, non-living materials. Yet it is still an open question whether the filterable virus is a micro-microbe culture, in which case it would be "alive." Ed.

(Note: According to data made available just as we were going to press, filterable viruses have been discovered to be protein molecules existing on the borderline between the living and the non-living.)

SKIN PIGMENTATION

Editor, Science Questions and Answers:

Albinos are explained as lacking pigmentation. How does this occur? Can there be albinos of any animal?

G. W. P.
Hartford, Conn.

Although no complete survey has been made, it is undoubtedly possible that there can be, and have been, albinos in every species of animal. White blackbirds, white crows, white swifts, white rabbits, white rats, and such are well known where the original stock is heavily pigmented.

In albinos the factors for pigmentation have been lost in the intricate nuclear combinations which occur in the ripening germ-cells. In the case of an animal with one of the dark pigments (melanins), it is necessary for a ferment (tyrosinase) to act on a pigment-producing substance called tyrosin. If either factor drops out of inheritance, the fertilized egg-cell develops into an albino. The phenomenon is comparatively rare because the pigment cells are "hardy," in the biological sense, being closely related to skin cells which are toughest of all.

There is also a form of albinism which is acquired rather than prenatal. Cases have been observed of animals such as chickens changing from black to white, or more rarely, of human hair whitening overnight. In such cases of "false albinism," the pigment matter can be found to have moved to a new locale, as for instance the liver. It is de-pigmentation rather than non-pigmentation. Ed.

ASTRONOMY SUPERSTITIOUS?

Editor, Science Questions and Answers:

Is there a direct connection between the motions of the moon around Earth and Earth around the sun? If so, why doesn't our calendar indicate that the true month is one-thirteenth of a year? Superstition?

M. P.,
Salt Lake City, Utah.

There is no mechanical connection between the separate orbital motions of Earth and moon. If the moon were miraculously to increase its speed of revolution by twice, it would move outward from Earth, but Earth would not change its periods of rotation and revolution noticeably.

By coincidence, the moon's period of revolution divides almost exactly thirteen times into a year. The ancients tried their best to work the moon-period into the year, with indifferent success. In the hey-dey of Roman civilization, no two people agreed as to the year since the first of the Caesars. Julius Caesar, with the aid of a competent astronomer, established in 45 B. C. the calendar bearing his name, which is in use today except for the modifications made by Pope Gregory in 1582 A. D. Julius Caesar's success in making a calendar that lost no more than three days in 400 years was due to his disregarding the period of the moon entirely, which is incommensurable with the year. Ed.

ANIMAL LONGEVITY

Editor, Science Questions and Answers:

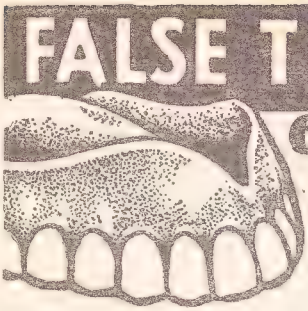
I don't believe personally that a cat has nine lives, but I've heard some wild stories of how cats survive all sorts of deaths, and lots of people believe in it. Now let's see what a science-editor would have to say about it besides plain "Bah!"

L. K.,
Long Branch, N. J.

A cat has fundamentally one life and one only. One bullet in its brain will kill it as surely as it would any other creature. But the cat does seem to have a special tenacity for that one life.

For one thing, it has by long evolutionary processes developed to perfection the art of always landing on its feet. This faculty measurably increases its chances for longevity. Then it has those richly innervated long hairs, or "whiskers," in its cheeks, which apprise it of danger in the dark upon contact. Added to this is an ability to see in depths of gloom in which most other creatures except owls and bats are totally blind. It also has the homing instinct strongly developed, which enables it often to reach safety and shelter when stranded. Physically, it has a highly developed, efficient body, well protected, from teeth to claws. Its senses of smell and hearing are very acute. And lastly, it has far more intelligence than is generally suspected. Its seeming dumbness is a camouflage for a first-class thinking organ.

All these points in its favor taken together give the cat a distinct advantage in the grim game of eluding death. It is questionable whether even the anthropoids, with their semi-human intelligence, have greater survival value than the felines. Only man, with his guns and snares, has the power to rob the cat family of prestige in the jungle. Ed.



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A department conducted for members of the international SCIENCE FICTION LEAGUE in the interest of science fiction and its promotion. We urge members to contribute any items of interest that they believe will be of value to the organization.

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IMAGINATION among scientists is still the priceless ingredient. The wars of the future will be fought, if at all, in the atomic laboratory. And it's a safe bet that the harnessing of atomic energy will be discovered only by accident. Throughout the history of science accident has been the important agency responsible for uncovering the great scientific wonders.

For example, in 1300 Berthold Schwarz was attempting to find a compound for making the philosopher's stone. All of a sudden his table of chemicals exploded on him. Gunpowder was discovered.

GALVANI'S DISCOVERY

In 1789 an Italian doctor named Luigi Galvani, quite by accident, came upon a dramatic scene which gave us electricity in circuit. Galvani noticed that whenever his electric machine began to spark between electrodes, a frog's legs which he had freshly dissected, lying on a metal plate, began simultaneously to twitch as though it were alive.

By hanging a dozen frogs' legs to dry by copper hooks on an iron grille, he played with the idea of animation again, and the whole line began to move, even without the aid of the electric machine nearby. Thus current was born.

And so it will be in the future. Scientists with imagination and enthusiasm will scoop their more practical-minded contemporaries.

LETTER CONTEST RESULTS

Here are the results of our contest for the best letters on the subject, "What Can I Do to Promote Science Fiction?" Winners of prizes—a free original drawing by the famous science fiction artist, M. Marchioni—are:

Robert A. Madle, 333 E. Belgrade Street, Philadelphia, Penn.
Fred Oakley, 1425 Alston Avenue, Fort Worth, Texas.
Frank Allun, 44 Totten Place, Babylon, New York.
James V. Taurasi, 137-07 32 Avenue, Flushing, New York.

Following is the best letter, written by Mr. Robert A. Madle:

The question, "What can I do to promote science fiction?" has often confronted the really interested science fiction enthusiast. If a person is actively interested in science fiction, he goes to any extremes, within reason, of course, to stimulate interest in the type of fiction he loves.

In my three years of scientifictional activities I have employed various methods of introducing science fiction to the general public. At school, in my English class, I often devote my oral lessons to scientifiction. Many of my written compositions are also based on science fiction. Of course, there are those who scoff at my choice of reading matter, but I have interested quite a few hitherto anti-sciencefictionists. Another of my favorite methods is to make a present of a copy of a science fiction magazine to a person in whom I think could develop an interest in stories of the fantastic. I often

(Continued on page 124)

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(Continued from page 122)

bring up the subject when we have a visitor at home, and he generally carries a copy or two under his arm when he leaves.

There are other ways of promoting science fiction. One method is to have an article, propounding the interests of science fiction, published in the local newspaper. Unfortunately, I reside in a large city, and this makes the task much more difficult. If a student, it would be advisable to submit an article pertaining to science fiction to the school paper, as this would surely bring in more converts to sf. As soon as I have composed an article which I consider good, it will immediately be submitted to the editor of my paper

There are probably ways other than the above to accomplish your intention, but those aforementioned are the ones which I consider the most effective.

JOIN THE LEAGUE

Have you joined the SCIENCE FICTION LEAGUE? It's a world organization devoted principally to the promotion of science and science fiction—and it fosters that intangible bond which exists between all science fiction readers. Just fill out the application blank!

There are members and chapters in every part of the globe—there are interesting get-togethers, and members have worthwhile correspondences with one another.

To obtain a certificate of membership, tear off the name-strip on the cover of this magazine, so that the date and title of the magazine show, and send it to SCIENCE FICTION LEAGUE, enclosing a stamped, self-addressed envelope. We will forward you, in addition to the certificate, further information concerning LEAGUE activities.

Everybody—please write the editor of THRILLING WONDER STORIES a letter every month. We will publish as many as space can allow. We want all your opinions, suggestions and criticisms! They are helping to make THRILLING WONDER STORIES *your magazine,* the kind of a magazine *you* want it to be.—THE EDITOR.

THE SCIENCE FICTION LEAGUE

—a department conducted for member of the International Science Fiction League in the interest of science, science fiction and its promotion We urge members to contribute any items of interest that they believe will be of value to the organization.

There are thousands of members in the League with about forty chapters in this country and abroad, and more than that number in the making all over the world. An application for readers who have not yet joined will be found on page 125.

FOREIGN CHAPTERS

Leeds Science Fiction League (Chapter No. 17). Director, Douglas W. F. Mayer, 20 Hollin Park Rd., Roundhay, Leeds 8, Yorkshire, England.

Belfast Science Fiction League (Chapter No. 20). Director, Hugh C. Carswell, 6 Selina St., Belfast, Northern Ireland.

Nuneaton Science Fiction League (Chapter No. 22). Director M. K. Hanson, c/o Mrs. Brice, Main Road, Narborough, Leicestershire, England.

Sydney Science Fiction League (Chapter No. 27). Director, W. J. J. Osland, 26 Union Street, Paddington, Sydney, N. S. W., Australia.

Glascow Science Fiction League (Chapter No. 34). Director, Donald G. MacRae, 36 Moray Pl., Glasgow, Scotland.

Barnsley Science Fiction League (Chapter No. 37). Director, Jack Beaumont. 30 Pontefiact Road, Barnsley, Yorkshire, England.

OTHER CHAPTERS

There are other domestic Chapters of the LEAGUE, fully organized with regular meetings, in the following cities. Addresses will be furnished upon request by Headquarters to members who would like to join some local branch. Chapters are listed chronologically acording to charter:

Lewiston, Ida.; Erie Pa.; Los Angeles, Calif.; Monticello, N. Y.; Mayfield, Pa.; Lebanon, Pa.; Jersey City, N. J.; Lincoln, Nebraska; New York, N. Y.; Philadelphia, Pa.; Oakland, Calif.; Elizabeth, N. J.; Chicago, Ill.; Tacoma, Wash.; Austin, Tex.; Millhiem, Pa.; Bloomington, Ill.; Newark, N. J.; Stamford, Conn.; Denver, Colo.;

(Continued on page 126)

APPLICATION FOR MEMBERSHIP
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Science Fiction League,
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I wish to apply for membership in the SCIENCE FICTION LEAGUE. I pledge myself to abide by all rules and regulations.

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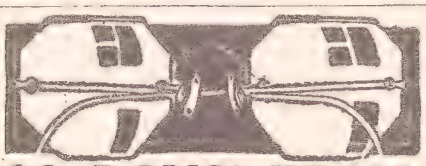
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(Continued from page 125)
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CHAPTER NEWS AND GENERAL ACTIVITIES

MARYLAND INTRA-CITY CHAPTER

Willis Connover, Jr., 27 High Street, Cambridge, Maryland, wishes to announce the formation of a Maryland Intra-City Chapter of the Science Fiction League. Kemp Bordley, science fiction fan from Chestertown, nearby, joins with Mr. Connover in inviting readers of THRILLING WONDER STORIES residing in the vicinity to communicate with either of them for purposes of obtaining information concerning meetings.

Mr. Connover is the editor of the Science-Fantasy Correspondent, a first-class fan magazine for followers of science fiction. He has a great collection of science fiction magazines which he will be pleased to display to Chapter members.

NEW MEMBERS

UNITED STATES

Robert Jones, 1434 Winona St., Denver, Colo.; Arden Benson, 4011 Emerson N., Minneapolis, Minn.; Aaron Gottlieb, 2265 Morris Ave., New York, N. Y.; Edward Goodman, 147 E. 90 St., New York, N. Y.; Conrad W. Weathersby, Box 125, Nixon, Tex.; Rosaire Rajotte, Main St., Box 193, Northbridge, Mass.; Kaye Hyde, Box 133, Gardena, Calif.; Frances Roberston, G. D. Rhododendron, Ore.; Chas. W. Smith, 526 S. Union Dr. No. 53 Los Angeles, Calif.; Lionel Lowry, Jr., P. O. 780 Winter Haven, Fla.

Jim Flanagan, 116 E. 9th St., Junction City, Kans., Bob Anderson, 3105 N. 111 St., Indianapolis, Ind.; T. B. Burdge, 1528 Wright St., Logansport, Ind.; George E. Ivan, R. D. 4, c/o Bennett, Ithaca, N. Y.; Chas. Lambias, 20 Hatch St., Everett, Mass.; Sheldon M. Smith, 219 E. 27th St., Tulsa, Okla.; Earl Rocke, 181 Sayles St., Woonsocket, R. I.; Donald E. Wilkinson, Box 1, Thomson, N. Y.; Jean W. Hiett, 1301 N. Flores St., Hollywood, Calif.; Gerard Vandenborre, 43-22 45th St., Sunnyside, L. I., N. Y.

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Carl Fissil, Jr., 34 Sullivan St., Forty Fort, Pa.; Harold G. Sahliney, 7½ S. Main, Aberdeen, S. D.; Edward Bemis, 13005 St., Clair Ave., Cleveland, Ohio; Julian Siomkajlo, 1898 Daly Ave., New York, N. Y.; Stanley Mazor, 852 E. 163 St., New York, N. Y.; Marvin Heller, 138 Lake St., Bellevue, Ky.; Norm W. Siringer, 17710 Franklin Blvd., Lakewood, Ohio; Gilbert Dancy, 123 Lancaster St., Albany N. Y.; Leonard A. Petcavage, 612 E. Pine St., Mahonoy

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Robert Brouca, 633 St. Ann's Ave., Bronx, N. Y.; Louis Scusoony, 1500 Pine St., Camden, N. J.; John Hannon, 94-25 41 Rd., Elmhurst, N. Y.

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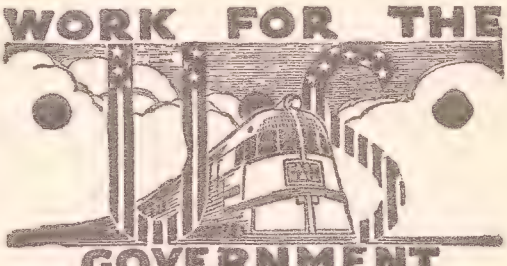

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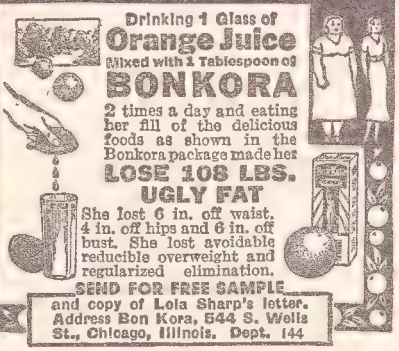

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Orange Juice
Mixed with 1 Tablespoon of
BONKORA
2 times a day and eating her fill of the delicious foods as shown in the Bonkora package made her
LOSE 108 LBS. UGLY FAT
She lost 6 in. off waist, 4 in. off hips and 6 in. off bust. She lost avoidable reducible overweight and regularized elimination.
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ELIXIR OF DOOM

(Concluded from page 111)

A Frankenstein's monster, it had killed its creator.

Again Somers and Anne were silent, awed by their memories. The little flower box stood here before them. The moonlight through the window streamed brilliantly down upon it.

Little arena. Small spread of caked dirt, with a fuzz of tiny grass and a forlorn geranium at its center. What amazing realms of smallness lay hidden here! The match still stood, with a tiny scratch in the dirt beside it. A few inches away, toward the geranium, the dirt was softer. There was a tiny broken mound. Somers' mind swept back. A worm had poked itself up there, and then wriggled away.

He bent closer. Even now he could distinguish the body of Toro. A speck on the dirt near the upright matchstick.

And as he stared, he saw two tiny black ants struggling over the ridges of the dirt. They came upon the tiny speck. They stood for a moment picking it apart. And then they carried it away.

GUIDE TO SCIENCE KNOWLEDGE ANSWERS

(See Page 57)

1—Page 30, in THE JUDGMENT SUN
2—Page 31, in THE JUDGMENT SUN
3—Page 31, in THE JUDGMENT SUN
4—Page 71, in WANDERER OF THE VOID
5—Page 33, in THE INVINCIBLE MIDGE
6—Page 37, in THE INVINCIBLE MIDGE
7—Page 88, in THE ASTOUNDING EXODUS
8—Page 29, in THE JUDGMENT SUN

Next Issue:

The Molten Bullet

The Story of An Astronomical Enigma

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into a trunk, under the bed or anywhere. Lots of fun fooling teacher, police, man or friends. The

VENTRILO

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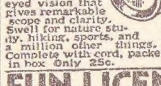

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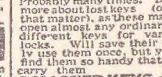
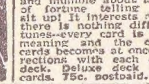


Did you ever lose or forget your keys? Probably many times. Don't worry any more about lost keys for any keys, yes that matter), as these master keys will open almost any ordinary lock. Five different keys in various sizes of locks. Will save their cost if you only use them once, but you'll probably find them so handy that you'll always carry them
5 MASTER KEYS price 25c

Tomorrow?



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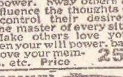

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